

Panasonic

Air conditioner

Installation Instruction



QR code for
Web Manual
<https://eu.data.navi.ac.smartcloud.panasonic.com/documents/index.htm?model=CS-HZ25ZKE>

MODEL NO. :-
CS/CU-HZ25, HZ35ZKE Series.



CAUTION
R32
REFRIGERANT

This Air Conditioner contains and operates with refrigerant R32.

Refer to National, State, Territory and local legislation, regulations, codes, installation & operation manuals, before the installation, maintenance and/or service of this product.

Please scan the above matrix two-dimensional (2D) barcode and read thoroughly for the detailed installation. Panasonic will not be responsible for any accident or damage due to improper installation in anyway not described in the detailed manuals.
Malfunction caused by incorrect installation is also not covered by product warranty.

Required tools for Installation Works

- | | | | | |
|--|---------------------|----------------|---------------------|-------------------|
| 1 Phillips screw driver | 6 Pipe cutter | 11 Thermometer | 14 Torque wrench | 15 Vacuum pump |
| 2 Level gauge | 7 Reamer | 12 Megameter | 18 Nm (1.8 kgf·m) | 16 Gauge manifold |
| 3 Electric drill, hole core drill (ø70 mm) | 8 Knife | 13 Multimeter | 42 Nm (4.3 kgf·m) | 17 Hand gloves |
| 4 Hexagonal wrench (4 mm) | 9 Gas leak detector | | 55 Nm (5.6 kgf·m) | |
| 5 Spanner | 10 Measuring tape | | 65 Nm (6.6 kgf·m) | |
| | | | 100 Nm (10.2 kgf·m) | |

SAFETY PRECAUTIONS

- Read the following "SAFETY PRECAUTIONS" carefully before installation.
- Electrical work must be installed by a licensed electrician. Be sure to use the correct rating of the power plug and main circuit for the model to be installed.
- The caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below. Incorrect installation due to ignoring of the instruction 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.

The items to be followed are classified by the symbols:

	Symbol with white background denotes item that is PROHIBITED.
	Symbol with dark background denotes item that must be carried out.

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

**WARNING**

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. Any unit method or using incompatible material may cause product damage, burst and serious injury.
- Do not install outdoor unit near handrail of veranda. When installing air-conditioner unit on veranda of a high rise building, child may climb up to outdoor unit and cross over the handrail causing an 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. Poor contact, poor insulation or over current will cause electrical shock or fire.
- Do not tie up the power supply cord into a bundle by band. Abnormal temperature rise on power supply cord may happen.
- 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.
- When installing or relocating air conditioner, do not let any substance other than the specified refrigerant, eg. air etc mix into refrigeration cycle (piping). Mixing of air etc. will cause abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- 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 and cause injury or death.
- Do not add or replace refrigerant other than specified type. It may cause product damage, burst and injury etc.
- For R32/R410A model, use piping, flare nut and tools which is specified for R32/R410A refrigerant. Using of existing (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.
- For R32 and R410A, the same is fit on the outdoor unit side and pipe can be used.
- Since the working pressure for R32/R410A is higher than that of refrigerant R22 model, replacing conventional piping and flare nuts on the outdoor unit side are recommended.
- If reuse piping is unavoidable, refer to instruction "IN CASE OF REUSING EXISTING REFRIGERANT PIPING".
- Thickness for copper pipes used with R32/R410A must be more than 0.8 mm. Never use copper pipes thinner than 0.8 mm.
- It is desirable that the amount of residual oil less than 40 g/m¹⁰ m.

- Engage authorized dealer or specialist for installation. If installation done by the user is incorrect, it will cause water leakage, electrical shock or fire.
- For refrigeration system work, install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire.
- Use the attached accessories parts and specified parts for installation. Otherwise, it will cause the set to fail, water leakage, fire or electrical shock.
- Install at a strong and firm location which is able to withstand weight of the set. If the strength is not enough or installation is not properly done, the set will drop and cause injury.
- For electrical work, follow the national regulation, legislation and this installation instructions. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in the electrical work, it will cause electrical shock or fire.
- Do not use joint cable for indoor / outdoor connection cable. Use the specified indoor/outdoor connection cable, refer to instruction "CONNECT THE CABLE TO THE INDOOR UNIT" and connect tightly for indoor/outdoor connection. Clamp the cable so that no external force will have impact on the terminal. If connection or fixing is not perfect, it will cause heat up or fire at the connection.
- 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 Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD), with sensitivity of 30 mA at 0.1 sec or less. Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
- During installation, install the refrigerant piping properly before running the compressor. Operation of compressor without fixing refrigeration piping and valves at opened position will cause suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- During pump down operation, stop the compressor before removing the refrigeration piping. Removal of refrigeration piping while compressor is operating and valves are opened will cause suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- Tighten the flare nut with torque wrench according to specified method. If the flare nut is over-tightened, after a long period, the flare may break and cause refrigerant gas leakage.
- After completion of installation, confirm there is no leakage of refrigerant gas. It may generate toxic gas when the refrigerant contacts with fire.
- Ventilate if there is refrigerant gas leakage during operation. It may cause toxic gas when the refrigerant contacts with fire.
- 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 cause electrical shock in case of equipment breakdown or insulation breakdown.

CAUTION

- Handle the unit surface with care to avoid scratching the surface by sharp or rough items (e.g. fingernails, tools, rings, etc). Wear hand gloves when performing installation work.
- Do not install the unit in a place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.
- Prevent liquid or vapor from entering sources or sewers since vapor is heavier than air and may form suffocating atmospheres.
- Do not release refrigerant during piping work for installation, re-installation and during repairing refrigeration parts. Take care of the liquid refrigerant, it may cause frostbite.
- 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. If drainage is not perfect, water may enter the room and damage the furniture.
- Select an installation location which is easy for maintenance.
- Incorrect installation, service or repair of this air conditioner may increase the risk of rupture and this may result in loss damage or injury and/or property.
- Power supply connection to the room air conditioner.
Use power supply cord 3 x 1.5 mm² type designation 60245 IEC57 or heavier cord.
Connect the power supply cord of the air conditioner to the mains using one of the following method.
Power supply point should be in easily accessible place for power disconnection in case of emergency.
In some countries, permanent connection of this air conditioner to the power supply is prohibited.
1) Power supply connection to the receptacle using power plug.
Use an approved 15/16 A power plug with earth pin for the connection to the socket.
2) Power supply connection to a circuit breaker for the permanent connection.
Use an approved 16 A circuit breaker for the permanent connection. It must be a double pole switch with a minimum 3.0 mm contact gap.
- Installation work.
It may need two people to carry out the installation work.
- Keep any required ventilation openings clear of obstruction.

PRECAUTION FOR USING R32 REFRIGERANT

- Pay careful attention to the following precaution points and the installation work procedures.

WARNING

- When connecting flare at indoor side, make sure that the flare connection is used only once, if torqued up and released, the flare must be remade. Once the flare connection was torqued up correctly and leak test was made, thoroughly clean and dry the surface to remove oil, dirt and grease by following instructions of silicone sealant. Apply neutral cure (Akkay type) & ammonia-free silicone sealant that is non-corrosive to copper & brass to the external of the flared connection to prevent the ingress of moisture on both the gas & liquid sides. (Moisture may cause freezing and the premature failure of the connection)
- The appliance shall be stored, installed and operated in a well ventilated room with indoor floor area larger than A_{min} (m²) (Refer Table A) and without any continuously operating ignition source. Keep away from open flames, any operating gas appliances or any operating electric heater. Else, it may explode and cause injury or death.
- The mixing of different refrigerants within a system is prohibited. Models that use refrigerant R32 and R410A have a different charging port thread diameter to prevent erroneous charging with refrigerant R22 and for safety. Therefore, check beforehand. (The charging port thread diameter for R32 and R410A is 12.7 mm (1/2 inch).)
- Ensure that foreign matter (oil, water, etc.) does not enter the piping.
Also, when storing the piping, securely seal the opening by pinching, taping, etc. (Handling of R32 is similar to R410A.)
- Operation, maintenance, repairing and refrigerant recovery should be carried out by trained and certified personnel in the use of flammable refrigerants and as recommended by the manufacturer. Any personnel conducting an operation, servicing or maintenance on a system or associated parts of the equipment should be trained and certified.
- 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, open flames, operating gas appliance or an operating electric heater.
- The user/owner or their authorized representative shall regularly check the alarms, mechanical ventilation and detectors, at least once a year, where as required by national regulations, to ensure their correct functioning.
- 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 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 about the construction, supervision, operation and maintenance of the refrigerating system, as well as the safety measures to be observed, and the properties and handling of the refrigerant used.
- 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.

CAUTION

- General
 - Must ensure the installation of pipe-work shall be kept to a minimum. Avoid use dented pipe and do not allow acute bending.
 - Must ensure that pipe-work shall be protected from physical damage.
 - Must comply with national gas regulations, state municipal rules and legislation. Notify relevant authorities in accordance with all applicable regulations.
 - Must ensure mechanical connections be accessible for maintenance purposes.
 - In cases that require mechanical ventilation, ventilation openings shall be kept clear of obstruction.
 - When disposal of the product, do follow to the precautions in #11 and comply with national regulations.
 - In case of field charge, the effect on refrigerant charge caused by the different pipe length has to be quantified, measured and labelled.
 - Always contact to local municipal offices for proper handling.
 - Ensure the actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed.
 - Ensure refrigerant charge not to leak.
 - Wear appropriate protective equipment, including respiratory protection, as conditions warrant.
 - Keep all sources of ignition and hot metal surfaces away.
- 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.
 - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
 - Servicing shall be performed only as recommended by the manufacturer.
 - The system is inspected, regularly supervised and maintained by a trained and certified service personnel who is employed by the person user or party responsible.
 - 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. For repair to the refrigerating system, the precautions in #2-3 to #2-7 must be followed before conducting work on the system.
 - 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.
 - Avoid working in confined spaces. Always ensure away from source, at least 2 meter of safety distance, or zoning of free space area of at least 2 meter in radius.
 - 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.
 - Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non sparking, adequately sealed or intrinsically safe.
 - 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.
 - 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.
 - Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.
 - 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. He/She must not be smoking when carrying out such work.
 - All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space.
 - 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.
 - "No Smoking" signs shall be displayed.
 - 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.
 - 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.
 - 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.
 - If in doubt consult the manufacturer's technical department for assistance.
 - The following checks shall be applied to installations using flammable refrigerants.
 - The actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed.
 - The ventilation machinery and outlets are operating adequately and are not obstructed.
 - If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant.
 - Marking to the equipment must be visible and legible. Markings and signs that are illegible shall be corrected.
 - Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are properly protected against being so corroded.
 - 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; this shall be done in a safe manner to avoid possibility of sparking.
 - That there is no live electrical components and wiring are exposed while charging, recovering or purging the system.
 - That there is continuity of earth bonding.
 - At all times the manufacturer's maintenance and service guidelines shall be followed.
 - If in doubt consult the manufacturer's technical department for assistance.
 - If a fault exists that could compromise safety, then no electrical supply shall be connected to circuit until it is satisfactorily dealt with.
 - 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 thereafter.
 - 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.
 - Power shall be kept to the electricity 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 seals, incorrect fitting of glands, etc.
 - Ensure that apparatus is mounted securely.
 - Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
 - Replacement parts shall be in accordance with the manufacturer's specifications.
 - 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.
 - Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
 - The test 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.
 - 5. Cabling
 - Check that cabling 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 continuous vibration from sources such as compressors or fans.
 - 6. Detection of flammable refrigerants
 - Under no circumstances shall potential sources of ignition be used in the searching or detection of refrigerant leaks.
 - A halide torch (or any other detector using a naked flame) shall not be used.
 - The following leak detection methods are deemed acceptable for all refrigerant systems.
 - No leaks shall be detected when using detection 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 (>1.04 MPa, max 4.15 MPa) for example, a universal sniffer.
 - Electronic leak detectors may be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration.
 - (Detection equipment shall be calibrated in a refrigerant-free area.)
 - Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
 - Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.
 - Leak detection agents are also suitable for use with most refrigerants, for example, bubble method and fluorescent method agents. The use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
 - If a leak is suspected, all naked flames shall be removed/extinguished.
 - If a leakage of refrigerant is found which requires brazing, all of the refrigerant 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 precautions in #7 must be followed to remove the refrigerant.
 - 7. Removal and evacuation
 - When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used.
 - However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:
 - remove refrigerant -> purge the circuit with inert gas -> • evacuate -> • purge with inert gas -> • open the circuit by cutting or brazing
 - 8. Charging procedures
 - In addition to conventional charging procedures, the following requirements shall be followed.
 - Ensure that contamination of different refrigerants does not occur when using charging equipment.
 - Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
 - Cylinders shall be kept in an appropriate position according to the instructions.
 - Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
 - Label the equipment when charging is complete (if not already).
 - Extreme care shall be taken not to over fill the refrigerating system.
 - Prior to recharging the system it shall be pressure tested with OFN (refer to #7).
 - The system shall be leak tested on completion of charging but prior to commissioning.
 - This operation is absolutely vital if brazing operations on the pipe work are to take place.
 - Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and there is ventilation available.
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 - This operation is absolutely vital if brazing operations on the pipe work are to take place.
 - Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and there is ventilation available.
 - 9. Decommissioning
 - Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details.
 - It is recommended good practice that all refrigerants are recovered safely.
 - Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant.
 - It is essential that electrical power is available before the task is commenced.
 - a) Become familiar with the equipment and its operation.
 - b) Isolate system electrically.
 - c) Before attempting the procedure ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery procedure is understood and agreed by a competent person;
 - recovery equipment and cylinders conform to the appropriate standards.
 - d) Pump down refrigerant system, if possible.
 - e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
 - f) Electrostatic charge may accumulate and create a hazardous condition when charging or discharging the refrigerant. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before charging/discharging.
 - 10. Labelling
 - Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant.
 - The label shall be dated and signed.
 - Ensure that there are labels on the equipment stating the equipment contains flammable 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).
 - Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.
 - Recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
 - The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of concerning the equipment that is at hand and shall be suitable for the recovery of the recovery of flammable refrigerants.
 - In addition, a set of calibrated weighing scales shall be available and in good working order.
 - Hoses shall be complete with leak-free disconnect couplings and in good condition.
 - Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.
 - Consult manufacturer if in doubt.
 - The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged.
 - Do not mix refrigerants in recovery units and especially not in cylinders.
 - If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
 - The evacuation process shall be carried out prior to returning the compressor to the suppliers.
 - Only electric heating to the compressor body shall be employed to accelerate this process.
 - When oil is drained from a system, it shall be carried out safely.

Explanation of symbols displayed on the indoor unit or outdoor unit.

	WARNING	This symbol shows that this equipment uses a flammable refrigerant. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.
	CAUTION	This symbol shows that the Installation Manual should be read carefully.
	CAUTION	This symbol shows that a service personnel should be handling this equipment with reference to the Installation Manual.
	CAUTION	This symbol shows that there is information included in the Operation Manual and/or Installation Manual.

Attached accessories

No.	Accessories part	Qty.	No.	Accessories part	Qty.
1	Installation plate	1	4	Battery	2
2	Installation plate fixing screw	5	5	Remote control holder	1
3	Remote Control	1	6	Remote control holder fixing screw	2

Applicable piping kit	Piping size	
	Gas	Liquid
CZ-3F5, 7BP	9.52 mm (3/8")	6.35 mm (1/4")
CZ-4F5, 7, 10BP	12.7 mm (1/2")	6.35 mm (1/4")
CZ-5F5, 7, 10BP	15.88 mm (5/8")	6.35 mm (1/4")

SELECT THE BEST LOCATION

INDOOR UNIT

- Do not install the unit in excessive oil fume area such as kitchen, workshop and etc.
- There should not be any heat source or steam near the unit.
- There should not be any obstacles blocking the air circulation.
- A place where air circulation in the room is good.
- A place where drainage can be easily done.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.
- Recommended installation height for indoor unit is at 1.8 m or more from the floor.

OUTDOOR UNIT

- If an awning is built over the unit to prevent direct sunlight or rain, be careful that heat radiation from the condenser is not obstructed.
- There should not be any animal or plant which could be affected by hot air discharged.
- Keep the spaces indicated by arrows from wall, ceiling, fence or other obstacles.
- Do not place any obstacles which may cause a short circuit of the discharged air.
- If piping length is over the [piping length for additional gas], additional refrigerant should be added as shown in the table.

Table A

Model	Capacity W (HP)	Piping size		Std. Length (m)	Max. Elevation (m)	Min. Piping Length (m)	Max. Piping Length (m)	Additional Refrigerant (g/m)	Piping Length for add. gas (m)	Max. Refrigerant Charge (kg)	Indoor A _{min} (m ²)
		Gas	Liquid								
HZ25**	1.0HP	9.52 mm (3/8")	6.35 mm (1/4")	5	10	3	20	10	7.5	1.03	Not applicable (*)
HZ35**	1.5HP				10	3	20	10	7.5	1.03	Not applicable (*)

(*) Systems with total refrigerant charge, m_t, lower than 1.84 kg are not subjected to any room area requirements.

Example: For HZ25**
If the unit is installed at 10 m distance, the quantity of additional refrigerant should be 25 g ... (10-7.5) m x 10 g/m = 25 g.

$$A_{min} = (m_t / (2.5 \times (LFL)^{0.66} \times h_o))^2 \quad \text{** not less than safety factor margin}$$

A_{min} = Required minimum room area, in m²

m_t = Refrigerant charge in appliance, in kg

LFL = Lower flammability limit (0.307 kg/m³)

h_o = Installation height of the appliance (1.8 m for wall mounted)

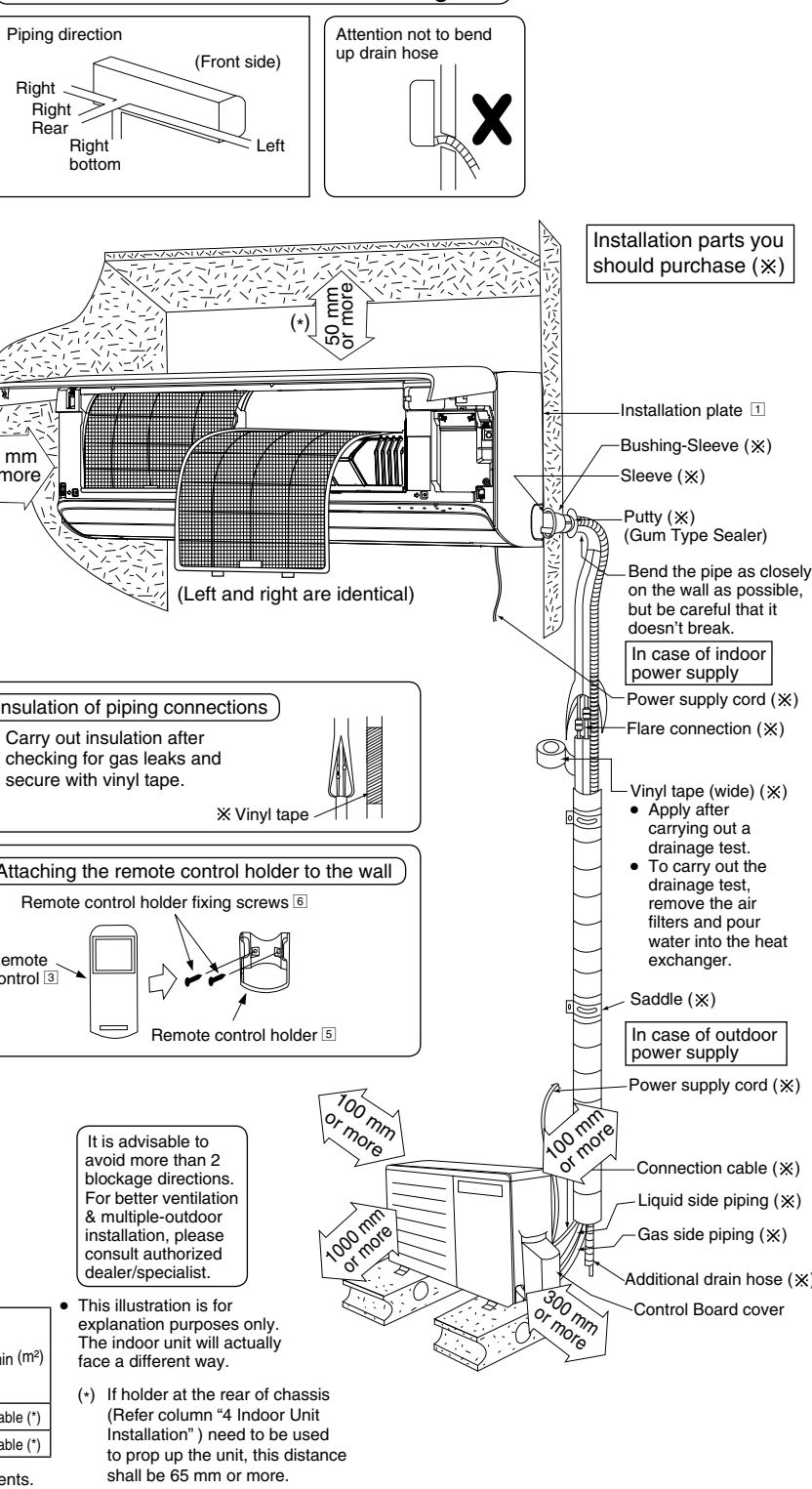
SF = Safety factor with a value of 0.75

** The required minimum room area, A_{min}, shall also be governed by the safety factor margin formula below :

$$A_{min} = m_t / (SF \times LFL \times h_o)$$

The higher value shall be taken when determining the room area.

Indoor/Outdoor Unit Installation Diagram

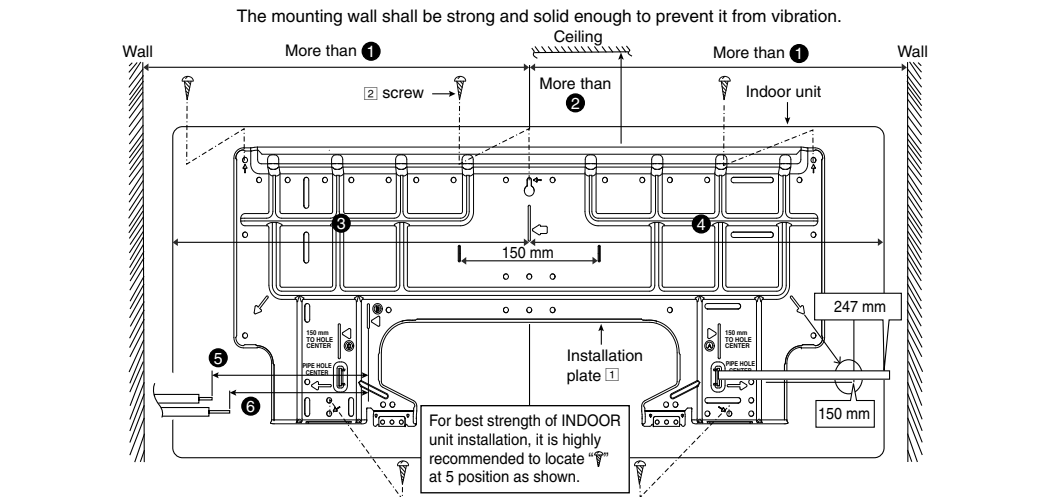


INDOOR UNIT

1 SELECT THE BEST LOCATION

(Refer to "Select the best location" section)

2 HOW TO FIX INSTALLATION PLATE

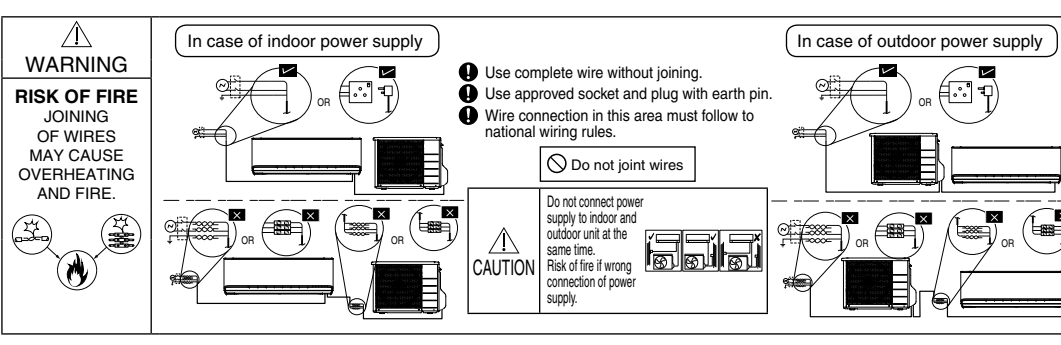
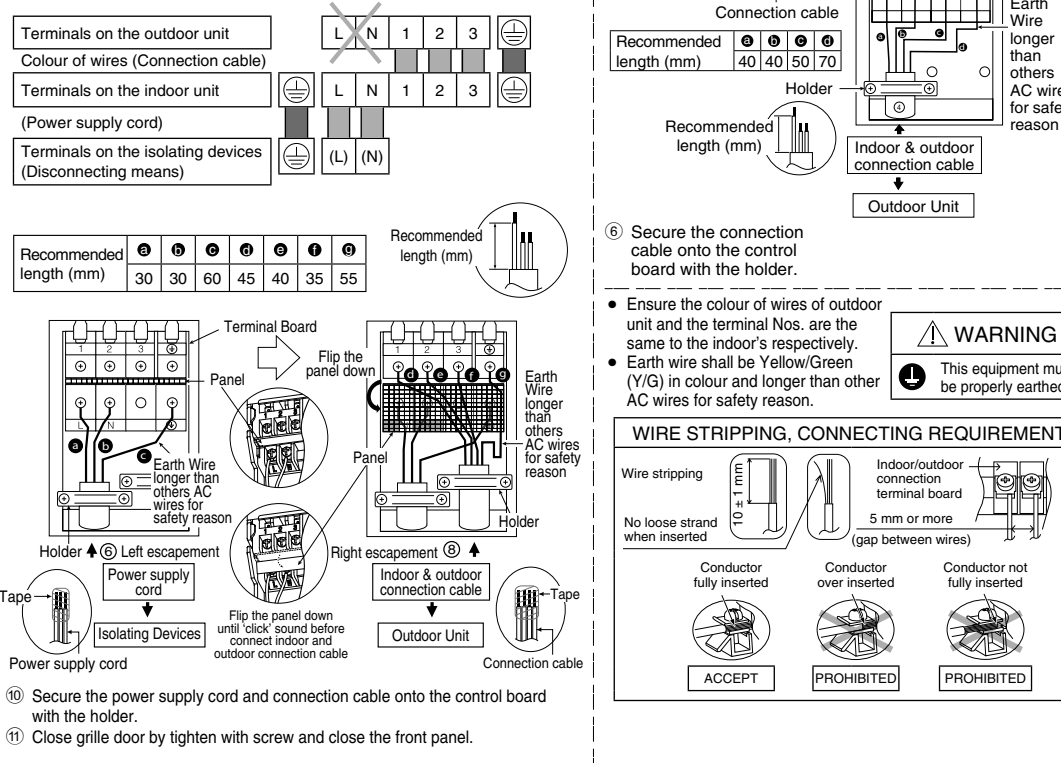


Model	1	2	3	4	5	6
HZ25***, HZ35***	500 mm	70 mm (+)	420 mm	450 mm	117 mm	65 mm

- The center of installation plate should be at more than ① at right and left of the wall. The distance from installation plate edge to ceiling should more than ②. From installation plate center to unit's left side is ③. From installation plate center to unit's right side is ④.
- For left side piping, piping connection for liquid should be about ⑤ from this line.
 - For left side piping, piping connection for gas should be about ⑥ from this line.
 - Mount the installation plate on the wall with 5 screws or more (at least 5 screws).
 - (If mounting the unit on the concrete wall, consider using anchor bolts.)
 - Always mount the installation plate horizontally by aligning the marking-off line with the thread and using a level gauge.
 - Drill the piping plate hole with ø70 mm hole-core drill.
 - Line according to the left and right side of the installation plate. The meeting point of the extended line is the center of the hole.
 - Another method is by putting measuring tape at position as shown in the diagram above. The hole center is obtained by measuring the distance namely 150 mm for left and right hole respectively.
 - Drill the piping hole at either the right or the left and the hole should be slightly slanting to the outdoor side.

5 CONNECT THE CABLE TO THE INDOOR UNIT

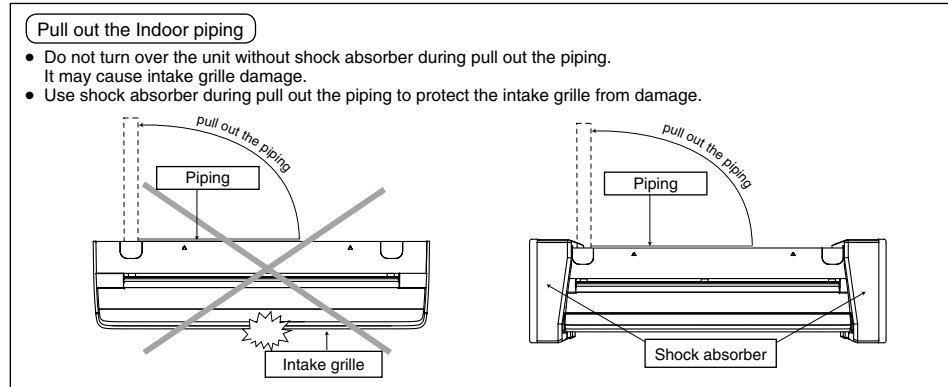
- The inside and outside connection cable can be connected without removing the front grille.
- Decide on the type of power supply connection to be used, indoor power supply or outdoor power supply.
- In case of indoor power supply
 - Install the indoor unit on the installing holder that mounted on the wall.
 - Open the front panel and grille door by loosening the screw.
 - Cable connection to the power supply through Isolating Devices (Disconnecting means).
 - Connect approved type polychloroprene sheathed power supply cord 3 x 1.5 mm² type designation 60245 IEC 57 or heavier cord to the terminal board, and connect the others end of the cord to Isolating Devices (Disconnecting means).
 - Do not use joint power supply cord. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short.
 - In unavoidable case, joining of power supply cord between isolating devices and terminal board of air conditioner shall be done by using approved socket and plug with earth pin rated 15/16 A. Wiring work to both socket and plug must follow to national wiring standard.
- In case of outdoor power supply
 - Bind all the power supply cord lead wire with tape and route the power supply cord via the left escapement.
 - Connection cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 1.5 mm² flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short. Allowable connection cable length of each indoor unit shall be 30 m or less.
 - Bind all the indoor and outdoor connection cable with tape and route the connection cable via the right escapement.
 - Remove the tapes and connect the power supply cord and connection cable between indoor unit and outdoor unit according to the diagram below.



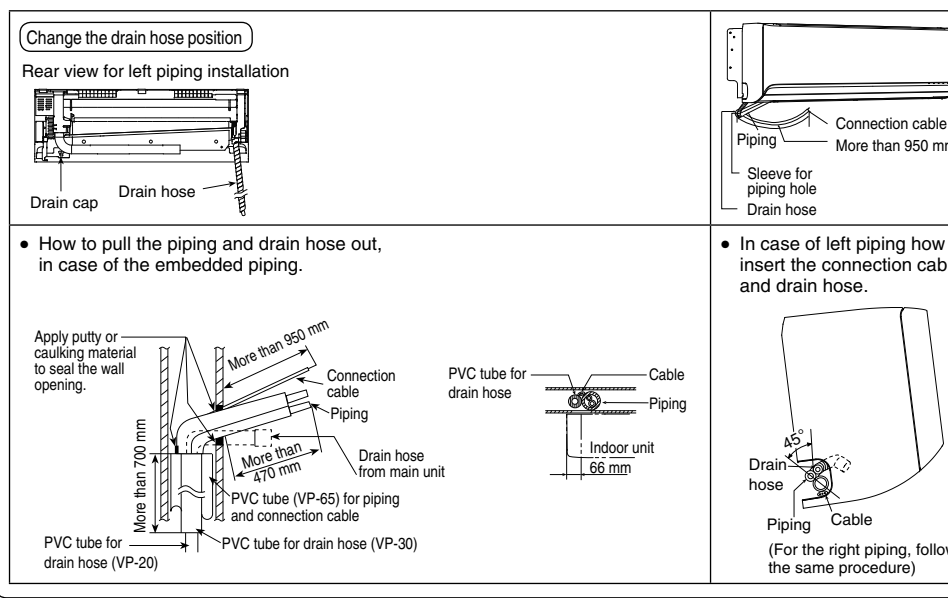
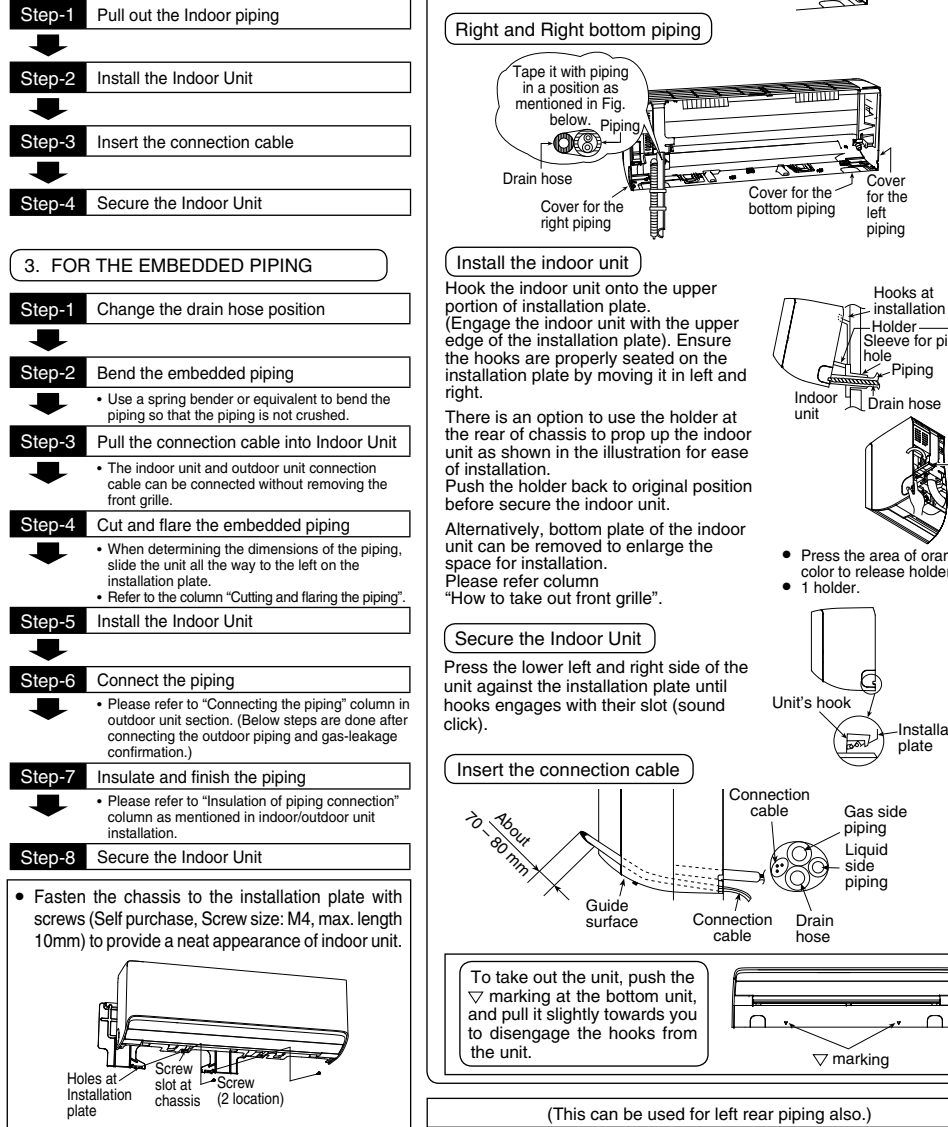
3 TO DRILL A HOLE IN THE WALL AND INSTALL A SLEEVE OF PIPING

- Insert the piping sleeve to the hole.
 - Fix the bushing to the sleeve.
 - Cut the sleeve until it extrudes about 15 mm from the wall.
- CAUTION**
- When the wall is hollow, please be sure to use the sleeve for tube assembly to prevent dangers caused by mice biting the connection cable.
- Finish by sealing the sleeve with putty or caulking compound at the final stage.

4 INDOOR UNIT INSTALLATION



- FOR THE RIGHT REAR PIPING
 - Step-1 Pull out the Indoor piping
 - Step-2 Install the Indoor Unit
 - Step-3 Secure the Indoor Unit
 - Step-4 Insert the connection cable
- FOR THE RIGHT AND RIGHT BOTTOM PIPING
 - Step-1 Pull out the Indoor piping
 - Step-2 Install the Indoor Unit
 - Step-3 Insert the connection cable
 - Step-4 Secure the Indoor Unit
- FOR THE EMBEDDED PIPING
 - Step-1 Change the drain hose position
 - Step-2 Bend the embedded piping
 - Step-3 Pull the connection cable into Indoor Unit
 - Step-4 Cut and flare the embedded piping
 - Step-5 Install the Indoor Unit
 - Step-6 Connect the piping
 - Step-7 Insulate and finish the piping
 - Step-8 Secure the Indoor Unit



OUTDOOR UNIT

1 SELECT THE BEST LOCATION

(Refer to "Select the best location" section)

2 INSTALL THE OUTDOOR UNIT

- After selecting the best location, start installation to Indoor/Outdoor Unit Installation Diagram.
- Fix the unit on concrete or rigid frame firmly and horizontally by bolt nut (ø10 mm).
- Make sure unit install in balance level to ensure that water flow out from unit drainage hole.
- When installing at roof, please consider strong wind and earthquake.
- Please fasten the installation stand firmly with bolt or nails.

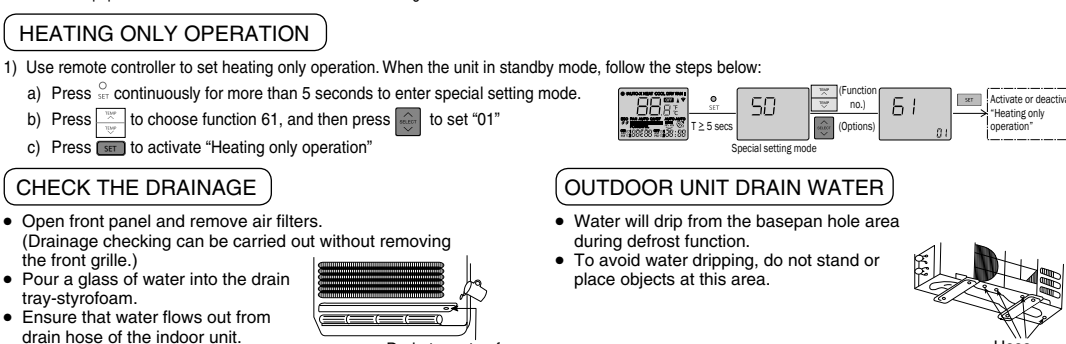
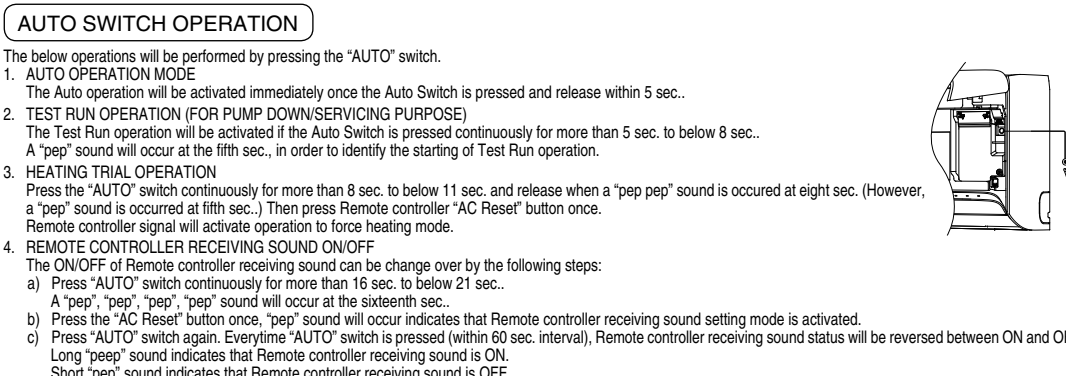
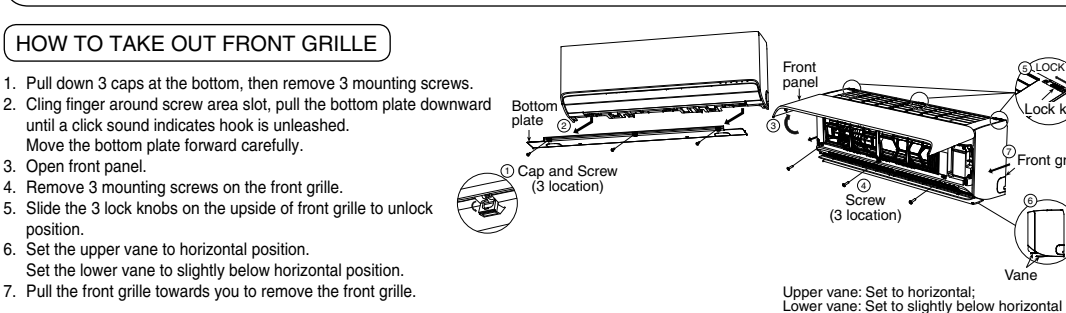
Model	A	B	C	D
HZ25***, HZ35***	540 mm	160 mm	18.5 mm	330 mm

5 CONNECT THE CABLE TO THE OUTDOOR UNIT

- Remove the control board cover from the unit by loosening the screw.
- Connect cables to the unit.
- In case of indoor power supply
 - Connection cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 1.5 mm² flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short. Allowable connection cable length of each indoor unit shall be 30 m or less.
 - Secure the cable onto the control board with the holder (clammer).
 - Attach the control board cover back to the original position with screw.
- In case of outdoor power supply
 - Cable connection to the power supply through Isolating Devices (Disconnecting means).
 - Connect approved type polychloroprene sheathed power supply cord 3 x 1.5 mm² type designation 60245 IEC 57 or heavier cord to the terminal board, and connect the others end of the cord to Isolating Devices (Disconnecting means).
 - Do not use joint power supply cord. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short.
 - In unavoidable case, joining of power supply cord between isolating devices and terminal board of air conditioner shall be done by using approved socket and plug with earth pin rated 15/16 A. Wiring work to both socket and plug must follow to national wiring standard.
 - Connection cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 1.5 mm² flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short. Allowable connection cable length of each indoor unit shall be 30 m or less.
 - Connect the power supply cord and connection cable between indoor unit and outdoor unit according to the diagram below.

6 PIPING INSULATION

- Please carry out insulation at pipe connection portion as mentioned in Indoor/Outdoor Unit Installation Diagram. Please wrap the insulated piping end to prevent water from going inside the piping.
- If drain hose or connection piping is in the room (where dew may form), please increase the insulation by using POLY-E FOAM with thickness 6 mm or above.



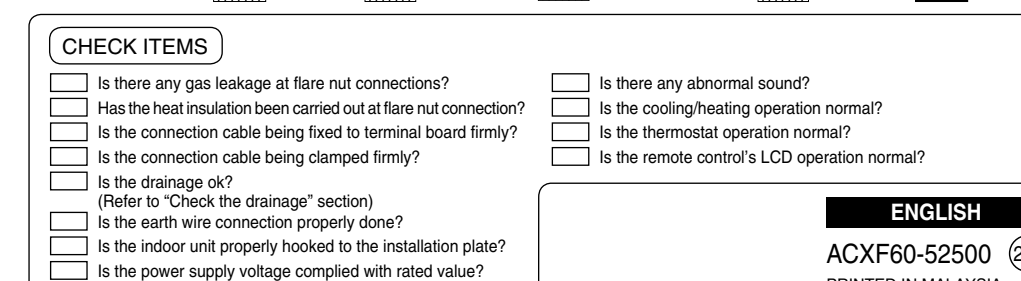
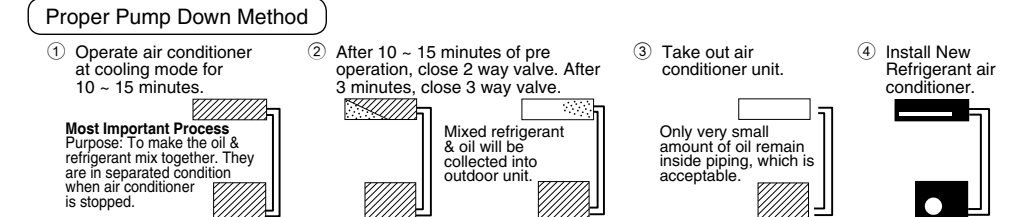
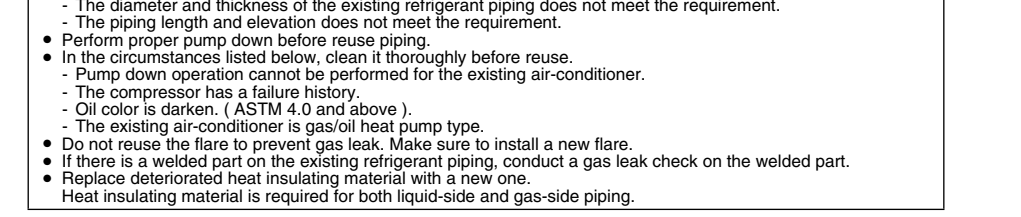
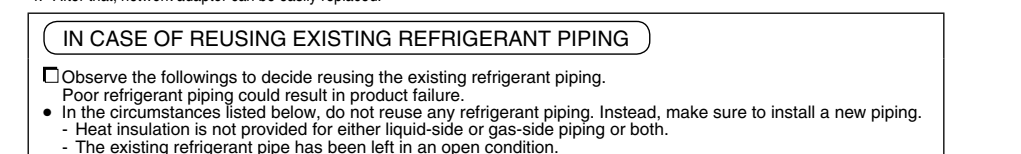
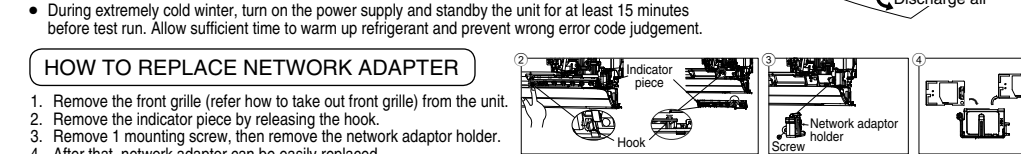
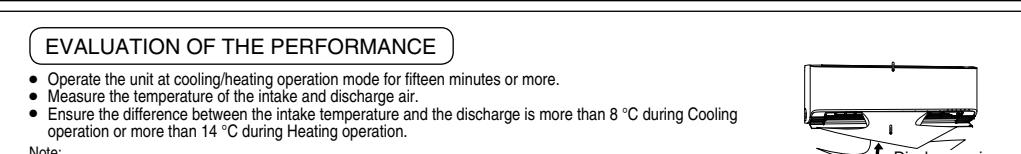
3 CONNECT THE PIPING

- Connecting The Piping to Indoor
- For connection joint of all models Please make flare after inserting flare nut (locate at joint portion of tube assembly) to the copper pipe. (In case of using long piping)
- Connect the piping
- Align the center of piping and sufficiently tighten the flare nut with fingers.
 - Further tighten the flare nut with torque wrench in specified torque as stated in the table.
- Additional Precautions For R32 Models when connecting by flaring at indoor side
- Ensure to do the re-flaring of pipes before connecting to units to avoid leaking.
 - Seal sufficiently the flare nut (both gas and liquid sides) with neutral cure (Alkoxy type) & ammonia-free silicone sealant and insulation material to avoid the gas leak caused by freezing.
- Neutral cure (Alkoxy type) & ammonia-free silicone sealant is only to be applied after pressure testing and cleaning up by following instructions of sealant, only to the outside of the connection. The aim is to prevent moisture from entering the connection joint and possible occurrence of freezing. Curing sealant will take some time. Make sure sealant will not peel off when wrapping the insulation.
- Connecting The Piping to Outdoor
- Decide piping length and then cut by using pipe cutter. Remove burrs from cut edge. Make flare after inserting the flare nut (locate at valve) onto the copper pipe. Align center of piping to wall and then tighten with torque wrench to the specified torque as stated in the table.
- Do not over tighten, over tightening may cause gas leakage.
- | Piping size | Torque |
|-----------------|------------------------|
| 6.35 mm (1/4") | [18 N·m (1.8 kgf·m)] |
| 9.52 mm (3/8") | [42 N·m (4.3 kgf·m)] |
| 12.7 mm (1/2") | [55 N·m (5.6 kgf·m)] |
| 15.88 mm (5/8") | [65 N·m (6.6 kgf·m)] |
| 19.05 mm (3/4") | [100 N·m (10.2 kgf·m)] |

Model	A	B	C	D
HZ25***, HZ35***	540 mm	160 mm	18.5 mm	330 mm

4 AIR TIGHTNESS TEST ON THE REFRIGERATING SYSTEM

- Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation.
 - There is no extra refrigerant in the outdoor unit for air purging.
 - Before system is charged with refrigerant and before the refrigerating system is put into operation, below site test procedure and Be sure to check whole system for gas leakage.
- Connect a charging hose with a push pin to the Low side of a charging set and the service port of the 3-way valve.
 - Attach the gauge manifold set correctly and tightly. Make sure that both valves of the manifold gauge (low pressure and high pressure) is in close position.
 - Connect the center hose of the manifold gauge to a vacuum pump.
 - Turn on the power switch of the vacuum pump, then turn open the low side manifold gauge valve and make sure that the needle in the gauge moves from 0 cmHg (0 MPa) to -76 cmHg (-0.1 MPa) or vacuum unit 500 microns is achieved. This process continues for approximately ten minutes. Then close the low side manifold gauge valve.
 - Remove the vacuum pump from the centre hose and connect the centre hose to cylinder of any applicable inert gas as test gas.
 - Charge test gas into the system and wait until the pressure within the system to reach min. 1.04 MPa (10.4 barg).
 - Wait and monitor the pressure reading on the gauges. Check if there is any pressure drop. Waiting time depends on the size of the system.
 - If there is any pressure drop, perform step 9-12. If there is no pressure drop, perform step 13.
 - Use Gas Leak Detector to check for leaks. Must use the detection equipment with a sensitivity of 5 grams per year of test gas or better.
 - Move the probe along the air conditioning system to check for leaks, and mark for repair.
 - Any leak detected and marked shall be repaired.
 - After repair, repeat evacuation steps 3-4 and tightness test steps 5-8. Check the pressure drop as in step 8.
 - If no leak, Recover the test gas. Perform evacuation of steps 3-4. Then proceed to step 14.
 - Disconnect the charging hose from the service port of the 3-way valve.
 - Tighten the service port caps of the 3-way valve at a torque of 18 Nm with a torque wrench.
 - Remove the valve caps of both of the 2-way valve and 3-way valve.
 - Open both of the valves, using a hexagonal wrench (4 mm). It is recommended to allow refrigerant slowly flow into the refrigerant system to prevent refrigerant freezing. Slightly open 2-way valve for 5 seconds then close the valve. Repeat this action for 3 cycles then fully open the valve.
 - Mount back the valve caps onto the 2-way valve and the 3-way valve to complete this process.



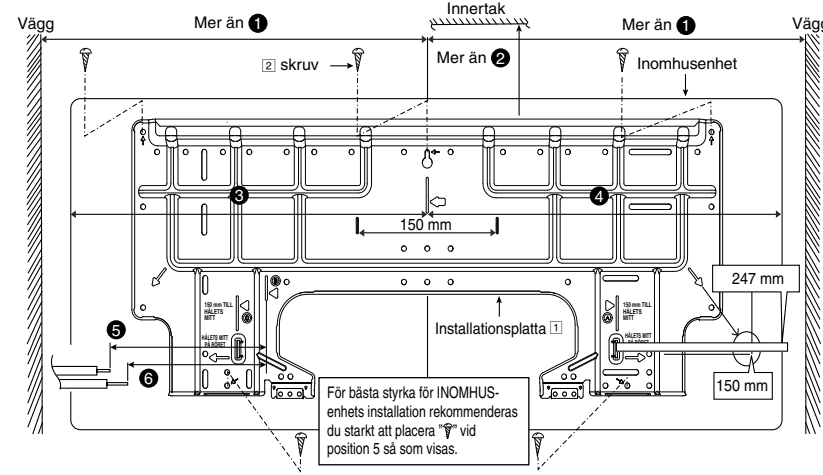
INOMHUSENHET

1 VÄLJ DEN BÄSTA PLATSEN

(Se kapitel "Välj den bästa platsen")

2 FASTSÄTTNING AV INSTALLATIONSPLATTAN

Väggen där apparaten monteras ska vara stark och stabil nog så att den inte utsätts för vibration.



Modell	1	2	3	4	5	6
HZ25***, HZ35***	500 mm	70 mm (+)	420 mm	450 mm	117 mm	65 mm

- Installationsplåt mitt ska vara min. ① från väggens högra eller vänstra kant. Avståndet mellan installationsplåten ände och taket ska vara minst ②. Från installationsplåtens mitt till enhetens vänstra sida är ③. Från installationsplåtens mitt till enhetens högra sida är ④. Vid rödragning från vänster ska röranlutningen på vätskesidan placeras ca. ⑤ från denna linje. Vid rödragning från vänster ska röranlutningen på gasidn placeras ca. ⑥ från denna linje.
- Placera monteringsplattan på väggen med minst fem skruvar. (minst 5 skruvar).
 - Använd förankringsbultar om apparaten ska fästas vid en betongvägg.
 - Fäst monteringsplattan horisontellt genom att rikta in markeringslinjen med ett snöre och ett vattenpass.
 - Ställ in i linje med hjälp av monteringsplattans högra och vänstra sida. Den förlängda linjens skärningspunkt sammanfaller med hålets mitt. En annan metod är att placera tejp för mätning i det läge som anges i diagrammet ovan. Hålet mitt erhålls genom att mäta avståndet på 150 mm för vänster resp. höger hål.
 - Borra hålet för röret antingen till höger eller till vänster. Hålet ska lita lätt mot utomhusidan.

5 ANSLUT ELKABELN TILL INOMHUSENHETEN

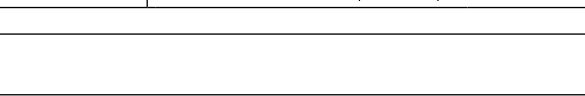
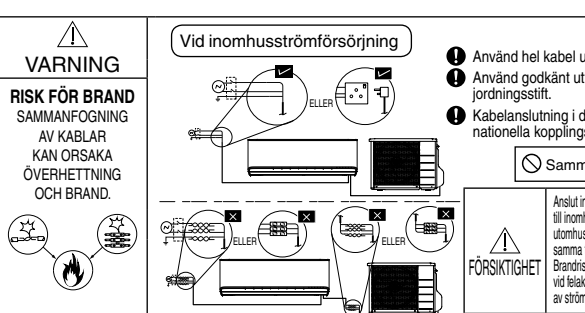
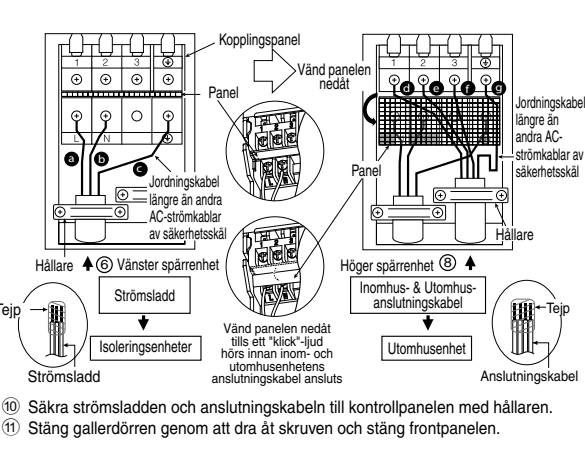
- Inom- och utomhusenhets anslutningskabel kan anslutas utan att frontgallret måste tas bort.
- Avgrör vilken typ av strömförsörjningsanslutning som ska användas, inomhusströmförsörjning eller utomhusströmförsörjning.

Vid inomhusströmförsörjning

- Installera inomhusenhetsen på installationshållaren som är monterad på väggen.
- Öppna frontpanelen och gallrerdörerna genom att lossa skruven.
- Kabelanslutning till strömkällan genom isoleringsenheter (Bryter huvudströmmen).
- Anslut godkänd polykrorenpremantlad typ av **strömkabel** 3 x 1,5 mm² med typbeteckning 60245 IEC 57 eller grövre till anslutningspanelen och anslut andra änden av kabeln till isoleringsenheter (Bryter huvudströmmen).
- Använd inte gemensam strömkabel. Byt ut kabeln om befintlig kabel (från döda kablar eller annat) är för kort.
- I oundvikliga fall ska sammanfogning av strömkabel mellan isoleringsenheter och luftkonditioneringens anslutningspanel göras med godkänt uttag och kontakt med jordingsstift 15/16 A. Ledningar till både uttag och kontakt måste följa nationella kopplingsstandarder.
- Bind kop strömförsörjningskablarna med tejp och led strömkabeln genom vänster spårhållare.
- Anslutningskabeln mellan inom- och utomhusenhetsen ska vara en godkänd, polykrorenpremantlad 4 x 1,5 mm² flexibel kabel med typbeteckning 60245 IEC 57 eller grövre. Använd inte gemensam anslutningskabel. Byt ut kabeln om befintlig kabel (från döda kablar eller annat) är för kort. Tillåten anslutningskabel längd för varje inomhusenhet ska vara 30 m eller mindre.
- Bind kop inom- och utomhusenhets anslutningskabel med tejp och led anslutningskabeln genom höger spårhållare.
- Avslagsna teipen och anslut strömkabeln och anslutningskabeln mellan inomhusenhetsen och utomhusenhetsen enligt diagrammet nedan.

Kopplingsplintar på utomhusenhet	L	N	1	2	3
Ledningsnågar (anslutningskabel)					
Kopplingsplintar på inomhusenhet	L	N	1	2	3
(Strömsladd)					
Kopplingsplintar på isoleringsenheter (Bryter huvudströmmen)	(L)	(N)			

Rekommenderad längd (mm)	30	30	60	45	40	35	55
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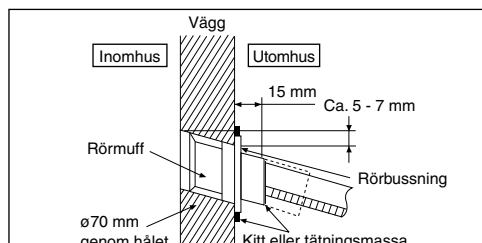


3 BORRA HÅL I VÄGGEN OCH MONTERA EN RÖRMUFF

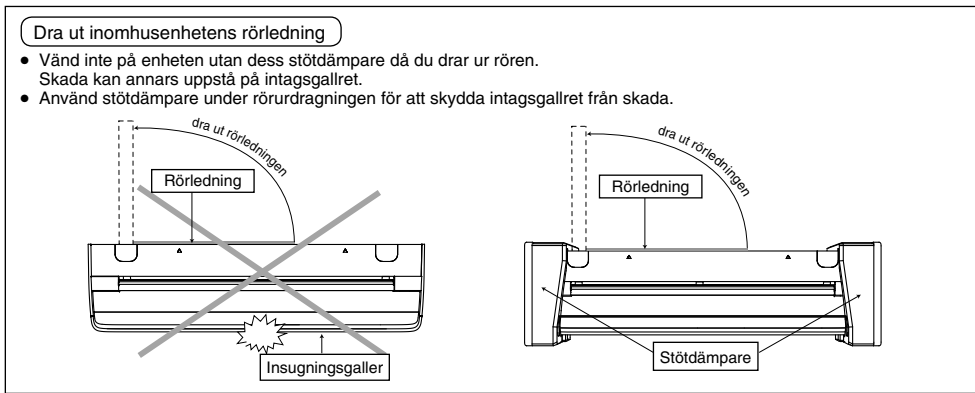
- För in rörmuffen i hålet.
- Fäst bussen i muffen.
- Skär av muffen så att den sticker ut ca. 15 mm från väggen.

FÖRSIKTIGHET

- När vägen är ihålig ska du använda rörmuffen för att undvika farliga situationer, t.ex. om en mus biter av anslutningsledningen.
- Avsluta momentet med att täta muffen med kitt eller tätningssmassa.



4 INSTALLATION AV INOMHUSENHET



1. RÖRDRAGNING FRÅN HÖGER/BAKSIDAN

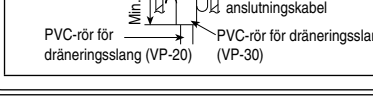
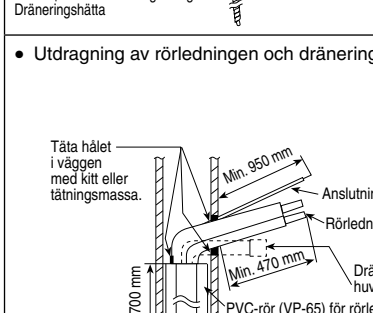
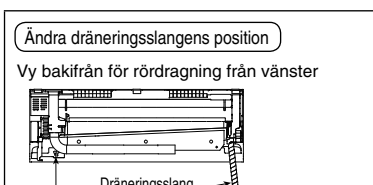
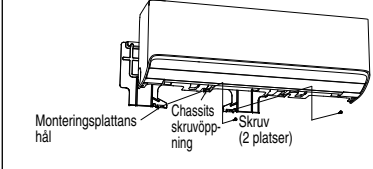
- Drag ut inomhusenhetsens rörledning
- Installera inomhusenhetsen
- Säkra inomhusenhetsen
- För in anslutningskabeln

2. RÖRDRAGNING FRÅN HÖGER/HÖGER OCH BOTTEN

- Drag ut inomhusenhetsens rörledning
- Installera inomhusenhetsen
- För in anslutningskabeln
- Säkra inomhusenhetsen

3. FÖR INBYGGD RÖRLEDNING

- Ändra dräneringsslangens position
- Byt den inbyggda rörledningen
- Ändra anslutningskabeln inomhusenhetsen
- Skär av och flänsa den inbyggda rörledningen
- Skär av och flänsa den inbyggda rörledningen
- Anslut rörledningen
- Isolera rörledningen och dräneringsslangens anslutning
- Säkra inomhusenhetsen



UTOMHUSENHET

1 VÄLJ DEN BÄSTA PLATSEN

(Se kapitel "Välj den bästa platsen")

2 INSTALLERA UTOMHUSENHETEN

- Välj bästa installationsplatsen. Påbörja installationen enligt inom- och utomhusenhetsens installationsdiagram.
- Använd en bult och en mutter (ø10 mm) för att förankra utomhusenhetsen ordentligt och horisontellt på ett betongfundament eller en stadig ram. Se till så att enheten installeras i balanserad nivå för att säkra att vatten flödar ut från enhetens dräneringshål.
- När installationen sker på ett tak ska du ta med i beräkningen starka vindar och jordbävning. Fäst monteringsstödet ordentligt med bultar eller spikar.

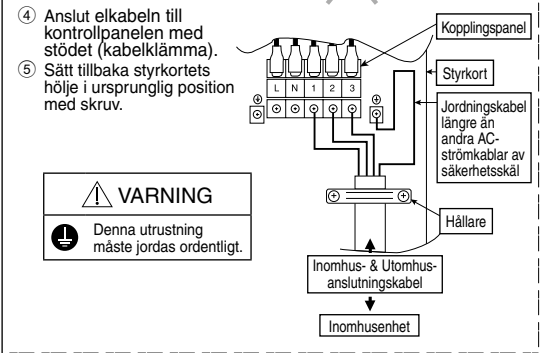
Modell	A	B	C	D
HZ25***, HZ35***	540 mm	160 mm	18,5 mm	330 mm

5 ANSLUT ELKABELN TILL UTOMHUSENHETEN

- Lossa skruven för att ta bort kontrollpanelens lock från apparaten.
- Anslut kablar till enheten.

Vid inomhusströmförsörjning

- Anslutningskabeln mellan inom- och utomhusenhetsen ska vara en godkänd, polykrorenpremantlad 4 x 1,5 mm² flexibel kabel med typbeteckning 60245 IEC 57 eller grövre. Använd inte gemensam anslutningskabel. Byt ut kabeln om befintlig kabel (från döda kablar eller annat) är för kort. Tillåten anslutningskabel längd för varje inomhusenhet ska vara 30 m eller mindre.
- Anslut elskabeln till kontrollpanelen med stödet (kabelklämma).
- Sätt tillbaka styrtkretsens hölje i ursprunglig position med skruv.



- För kabelavskalning och anslutningskrav, se instruktion ⑤ för inomhusenhetsen.
- Isoleringsenheter (Bryter huvudströmmen) bör ha kontaktavstånd på minst 3,0 mm.
- Jordkabel skall ha Gul/Grön (Y/G) färg och vara längre än övriga AC-kablar av säkerhetsskäl.



6 RÖRISOLERING

- Isolera röranlutningen enligt inomoch utomhusenhetsens installationsdiagram. Linda in den isolerade rörledningens ände för att hindra att vatten tränger in i rörledningen.
- Om dräneringsslangens ände nedåt för att hindra att metalldam tränger in i rörledningen.
- Placera flänsmuttern på kopparröret och flänsa sedan.

KAPNING OCH FLÄNSNING AV RÖRLEDNING

- Skär av rörledningen med en rörvätskärare och ta bort grader.
- Ta bort grader med ett gravverktyg. Om grader inte avlägsnas kan det leda till gasläckage.
- Vänd rörledningens ände nedåt för att hindra att metalldam tränger in i rörledningen.
- Placera flänsmuttern på kopparröret och flänsa sedan.



BORTTAGNING AV FRONTGALLER

- Drag ner 3 kåpor i botten, och ta sedan bort 3 monteringskruvar.
- Sätt fingret runt skruvmåttöppningen, dra bottenplattan nedåt tills ett kljudigt ljud kommer att höra sig. Dra bottenplattan framåt försiktigt.
- Öppna frontpanelen.
- Ta bort 3 monteringskruvar på frontgallret.
- Skjut de 3 låsknapparna på frontgallret oavsida till oåst position.
- Ställ in det övre bladet till horisontell position.
- Ställ in det undre bladet till lite under horisontell position.
- Ta bort frontgallret genom att dra frontgallret mot dig.

DRIFT VIA AUTOBRYTARE

- Nedanstående moment går att göra genom att brytaren "AUTO" trycks ned.
- AUTODRIFTLÄGE: Automatikfunktionen aktiveras omedelbart när brytaren "Auto" trycks ned och släpps inom 5 sek.
- TESTKÖRNING (FÖR AVSTÄJNING/UNDERHÅLL): Provkörningen aktiveras om Auto-brytaren hålls tryckt i mer än 5 min mindre än 8 sekunder. Efter 5 sek hörs ett pipande ljud som indikerar att testkörningen har startat.
- FJÄRRÖRNINGENS MÖTAGE TID/SLUK: Det är möjligt att släp eller stänga av fjärrkontrollens ljudkittens av följande sätt:
 - Tryck på brytaren "AUTO" och håll den nedtryckt i 16 - 21 sek.
 - Efter 16 sek. hörs fyra pipande ljud.
 - Tryck på knappen "AC Reset" en gång, varefter du hör ett "pipjud" som indikerar att fjärrkontrollens ljudkittens är aktiverat.
 - Tryck på "AUTO"-brytaren igen. Varje gång du trycker på "AUTO"-brytaren (inom ett intervall på 60 sek.), kommer status för fjärrkontrollens ljudkittens av växlas mellan att vara på och av.
 - Långa "pipjud" indikerar att fjärrkontrollens ljudkittens är på. Korta "pipjud" indikerar att fjärrkontrollens ljudkittens är av.

ENDAST UPPVÄRMNINGSFUNKTION

- Använd fjärrkontrollen för att ställa in drift med endast värmning. Följ stegen nedan när enheten är i standby-läget:
 - Tryck på "upprepa gånger i mer än 5 sekunder för att aktivera det speciella inställningsläget.
 - Tryck på " " för att välja funktion 61, och tryck sedan på " " för att ställa in "D1"
 - Tryck ner " " för att aktivera "Endast uppvärmning"

KONTROLLERA DRÄNERINGEN

- Öppna frontpanelen och ta bort luftfiltren. (Dräneringen kan kontrolleras utan att frontgallret måste tas bort.)
- Håll ett glas vatten i dräneringsplattan av skumplast.
- Kontrollera att vatten rinner ut ur inomhusenhetsdräneringsslang.



UTOMHUSENHETENS DRÄNERINGSVATTEN

- Vatten droppar från bottenplattans hål under avfrostningsfunktionen.
- För att undvika vattendroppar, stå ett hår och placera ett föremål här.



3 ANSLUT RÖRLEDNINGEN

Ansluta Rörledningen till Inomhus

- För koppling vid anslutning av alla modeller
- Placera flänsmuttern på kopparröret och flänsa sedan vid röretens anslutningspunkt. (När lång rörledning används)
- Anslut rörledningen
- Placera rörledningen i mitten och dra åt flänsmuttern för hand.
 - Använd sedan en momentnyckel och dra åt flänsmuttern med det ådragningsmoment som anges i tabellen över ådragningsmoment.

Ansluta Rörledningen till Utomhus

- Fastställ rörledningens längd och skär av rörledningen med en rörvätskärare. Ta bort grader.
- Placera flänsmuttern (vid ventilen) på kopparröret och flänsa sedan. Placera rörledningens mitt så att den sammanfaller med ventilen och dra åt flänsmuttern. Använd en momentnyckel och dra åt det ådragningsmoment som anges i tabellen över ådragningsmoment.

Ytterligare försiktighetsåtgärder för R32-modeller när du ansluter genom flänsning på inomhusidan

① Säkerställ att du återfärs alla rörledningar innan du ansluter dem till enheten för att undvika läckage.

Försejla flänsmuttern (både gas- och vätskesidan) med neutralt hårdande (alkoxyty) och ammoniakfri silikonlätning och isoleringsmaterial för att undvika gasläckage som orsakas av fryssyn.



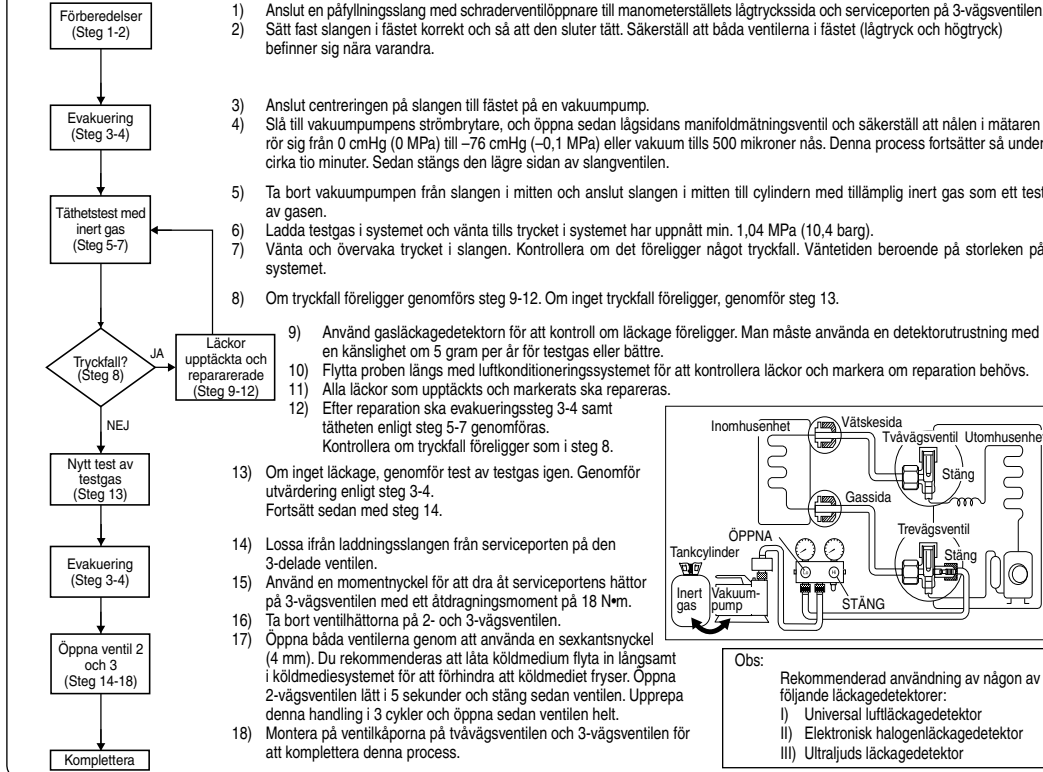
Neutralt hårdande (alkoxyty) och ammoniakfri silikonlätning appliceras endast efter trycktestning och rengöring enligt tätningsmedlets instruktioner, och endast på anslutningens utsida. Målet är att förebygga fukt från att tränga in i anslutningskopplingen och möjligheten till fryssyn. Det tar ett tag för tätningsmedlet att härda. Se till att tätningsmedlet inte lossnar när du står in i isoleringen.

Ansluta Rörledningen till Utomhus	Rörledningens storlek	Ådragningsmoment
Fastställ rörledningens längd och skär av rörledningen med en rörvätskärare.	6,35 mm (1/4")	[18 N·m (1,8 kgf·m)]
Placera flänsmuttern (vid ventilen) på kopparröret och flänsa sedan.	9,52 mm (3/8")	[42 N·m (4,3 kgf·m)]
Placera rörledningens mitt så att den sammanfaller med ventilen och dra åt flänsmuttern. Använd en momentnyckel och dra åt det ådragningsmoment som anges i tabellen över ådragningsmoment.	12,7 mm (1/2")	[55 N·m (5,6 kgf·m)]
	15,88 mm (5/8")	[65 N·m (6,6 kgf·m)]
	19,05 mm (3/4")	[100 N·m (10,2 kgf·m)]

4 LUFTRÄNGSELTEST FÖR KYLSKÅPSSYSTEMET

- Rensa inte luften med köldmediet utan använd en vakuumpump för att vakuumpump installationen.
- Det finns inget extra köldmediet i utomhusenhetsen för luftvinning.

- Innan systemet laddas med kylmedel och innan kylsystemet sätts i drift, vid sidan av testproceduren och acceptanskriterier ska.
- Kontrollera hela systemet om gasläckage förekommer.



VÄRDERING AV PRESTANDA

- Använd apparaten med kyl-/värmefunktion i min. 15 minuter.
- Mät temperaturen på intagsplåten och den utsläppta luften.
- Kontrollera att temperaturskillnaden mellan intagsluften och den utsläppta luften är min. 8°C under kyl- eller min. 14°C under värmefunktion.
- Om: Under extremt kalla vintrar ska du sätta på strömmen och låta enheten stå i standby i minst 15 minuter innan testkörning. Låt tillräckligt med tid gå för att värma upp köldmediet och förhindra felmeddelningar av felkoder.

HUR DU BYTER UT NÄTVERKSADAPTERN

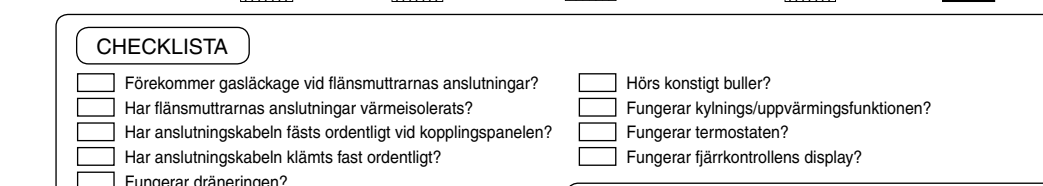
- Avlägsna frontgallret (se borttagning av frontgallret) från enheten.
- Ta bort indikatorstycket genom att släppa kroken.
- Ta bort 1 monteringskruv, och ta sedan bort nätverksadapterhållaren.
- Efter det kan nätverksadaptern enkelt bytas ut.

FÖR ÅTERANVÄNDNING AV BEFINTLIGA KYLRÖR

- Under följande för att välja återanvändning av befintliga kylrör.
- Dränera kylrör kan inte till produkten.
- Om det oömsändigheter som anges nedan får du inte återanvända några kylrör. Installera istället en ny rörledning.
 - Värmeisolering tillhandahålls inte för varken vätske- eller gas-sidledningen eller båda.
 - Det befintliga kylröret har lämnats i öppet skick.
 - Diametern och tjockleken för det befintliga kylröret uppfyller inte kravet.
 - Rörledning och höjd uppfyller inte kravet.
- Uttör rätt nedpumpning innan du återanvänder rörledningen.
- Under omständigheterna nedan, rengör det noggrant innan återanvändning.
 - Nedpumpningen kan inte utföras för den befintliga luftkonditioneringen.
 - Kompressorn har en felhistorik.
 - Oljefärgen är mörkare. (ASTM 4.0 och över).
 - Den befintliga luftkonditioneringen är av värme-pumpstyrt gas/olja.
- Använd inte flänsen igen för att förhindra gasläckage. Installera istället en ny fläns.
- Om det finns en sveatsdel på det befintliga kylröret, utför en kontroll av gasläcka på den sveatsdelen.
- Byt ut försämrade värmeisolerande material med nytt värmeisolerande material krävs för både vätske- och gas-sidledningar.

Rätt nedpumpningsmetod

- Använd luftkonditioneringsapparaten i kylsläp i 10 till 15 minuter.
- Stäng 2-vägsventilen 10 till 15 minuter före drift. Efter 3 minuter, stäng 3-vägsventilen.
- Ta ut luftkonditioneringsenhetsen.
- Installera en kylsläp luftkonditionering.



CHECKLISTA

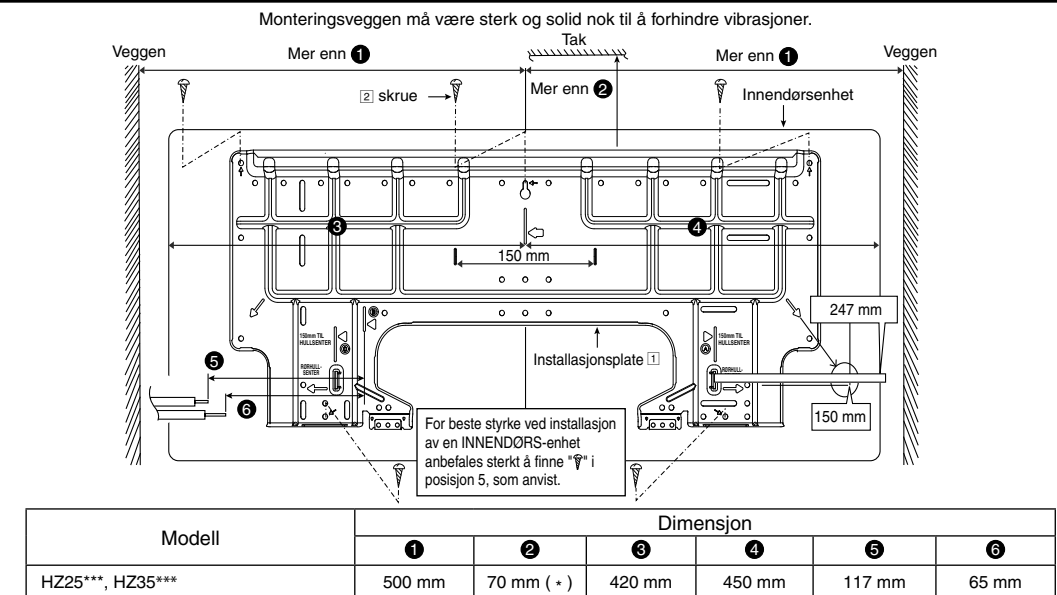
- Förekommer gasläckage vid flänsmuttrarnas anslutningar?
- Har flänsmuttrarnas anslutningar värmeisolerats?
- Har anslutningskablarna fäst ordentligt vid kontrollpanelen?
- Har anslutningskablarna klämts fast ordentligt?
- Fungerar dräneringen? (Se kapitel "Kontrollera dräneringen")
- Ar jordanslutningen korrekt?
- Ar inomhusenhetsen förankrad ordentligt vid installationsplatsen?
- Ar matningsspänningen inomnärmspänningens värden?
- Hörs konstigt buller?
- Fungerar kylnings/uppvärmningsfunktionen?
- Fungerar termostaten?
- Fungerar fjärrkontrollens display?

INNENDØRSENHET

1 VELG BESTE PLASSERING

(Les avsnittet "Velg beste plassering")

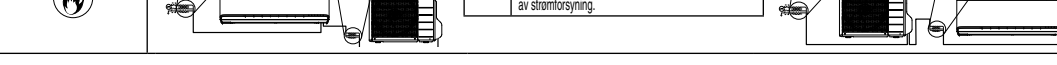
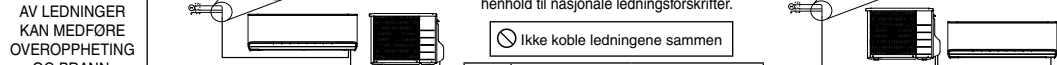
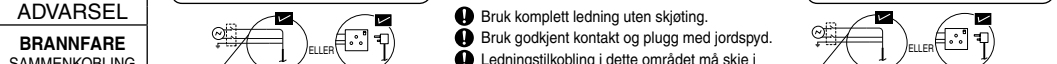
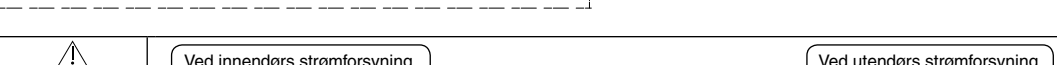
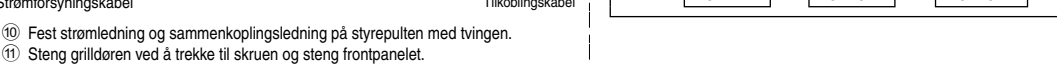
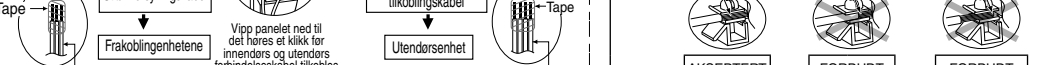
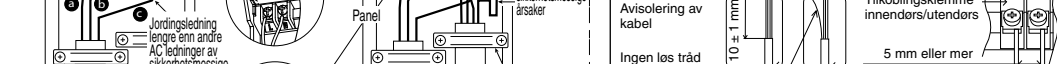
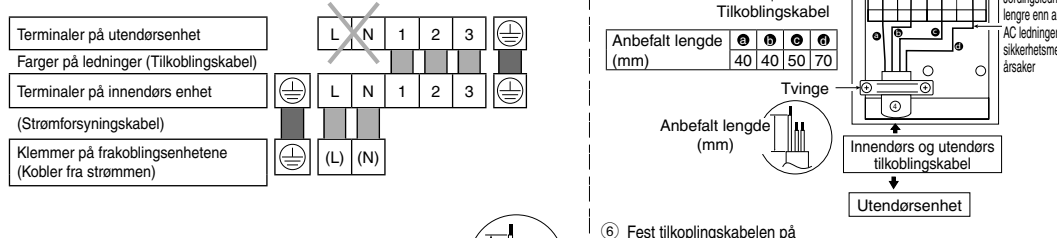
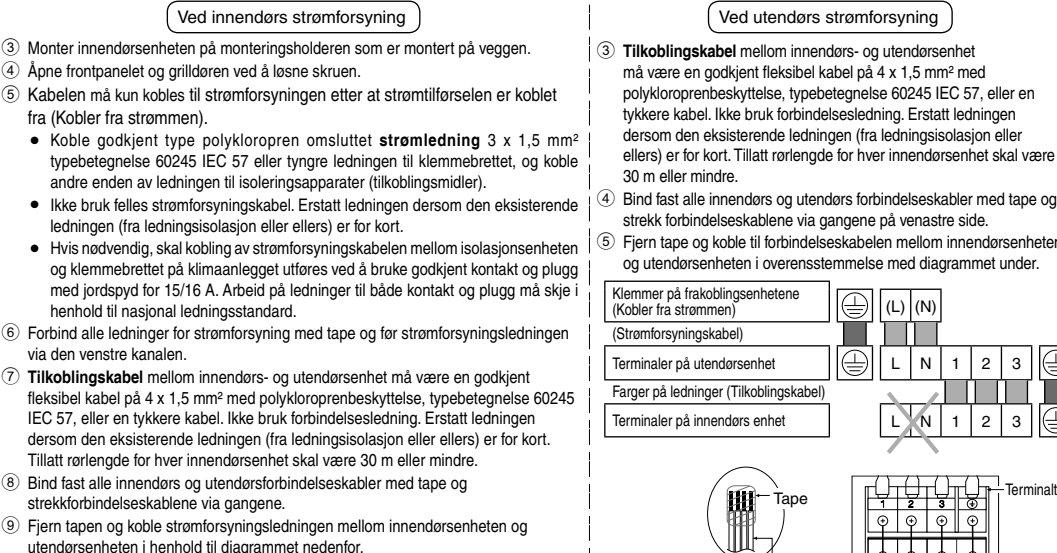
2 SLIK FESTES INSTALLASJONSPLATEN



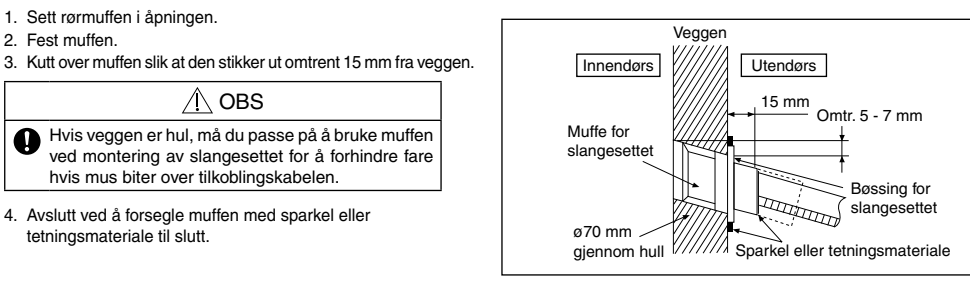
Senter på installasjonsplate bør være mer enn ① til høyre og venstre på veggen. Avstanden fra kanten på installasjonsplaten til taket må være mer enn ②. Fra installasjonsplattens senter til enhetens venstre side er ③. Fra installasjonsplattens senter til enhetens høyre side er ④. For røropplegg til venstre bør rørtilkobling for væske være omtrent ⑤ fra dannelsen. For røropplegg til venstre bør rørtilkobling for gass være omtrent ⑥ fra dannelsen. Monter installasjonsplaten på veggen med 5 skruer eller mer (minst 5 skruer). (Ved montering av enhet på murvegg, bør du vurdere å bruke forankringsbolter). Monter alltid installasjonsplaten horisontalt ved å justere markeringslinjen med tråden og bruke en nivååler. Drill hull i rørløpene med en ø70 mm hullkjerne. Stilling på linje med bruk av installasjonsplattens venstre og høyre side. Krysspunktet til den forlengede linjen er midt på hullet. Du kan også bruke målebånd og legge det i posisjonen vist på diagrammet ovenfor. Midten på hullet finner du ved å måle 150 mm fra henholdsvis venstre og høyre hull. Bør rørløpet enten til høyre eller venstre, og hullet bør være litt skråstilt mot utendørsiden.

5 TILKOBLING AV KABELN TIL INNENDØRSENHETEN

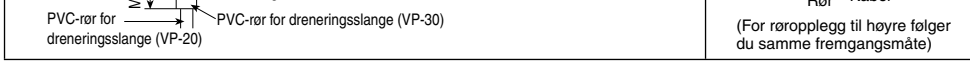
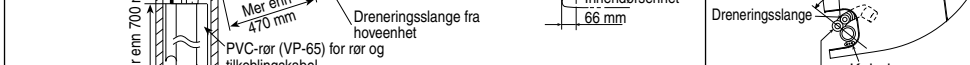
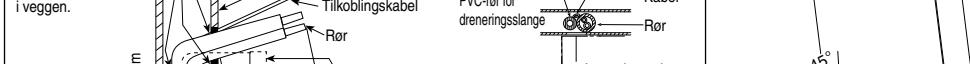
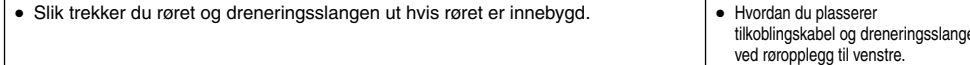
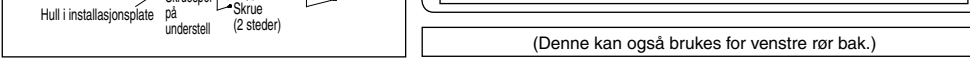
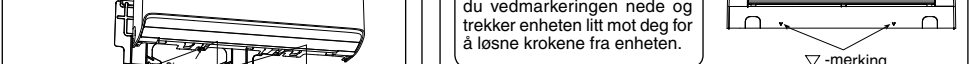
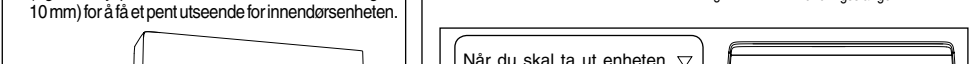
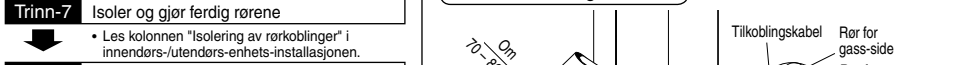
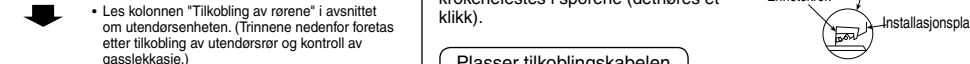
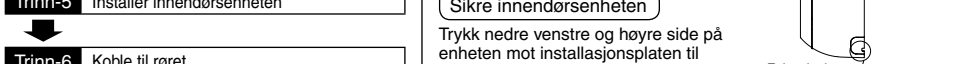
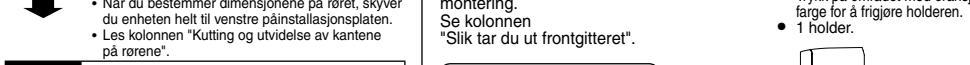
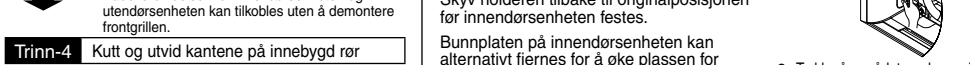
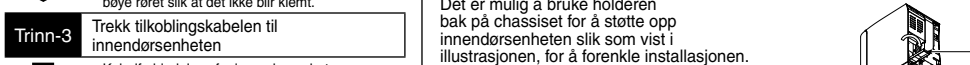
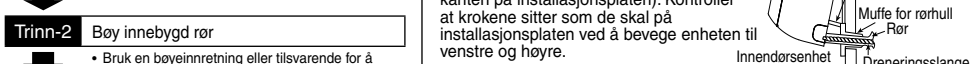
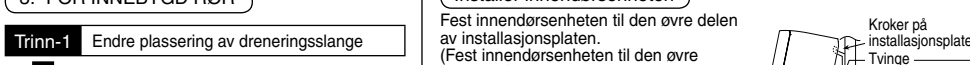
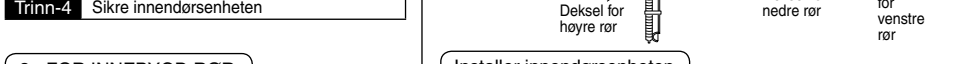
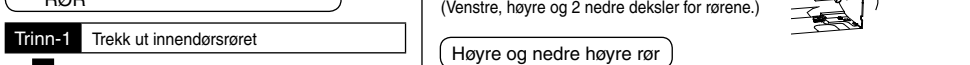
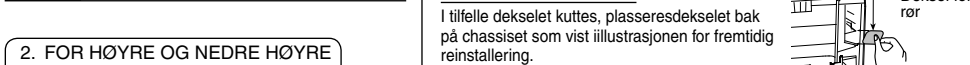
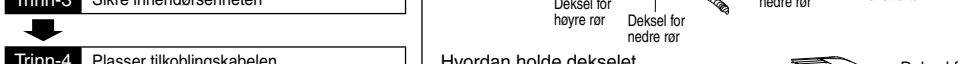
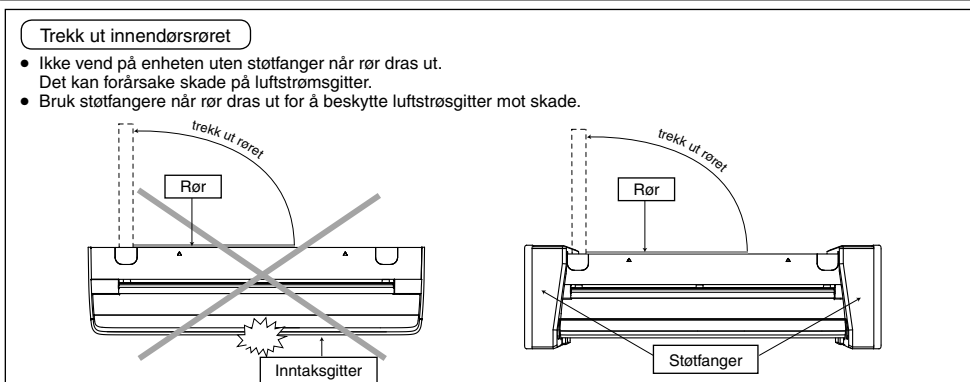
- Kabelen for tilkobling mellom utside- og innsideenheten kan kobles til uten å fjerne frontgitteret.
- Bestem hvilken strømforsyningstilkobling som skal brukes, innendørs-strømforsyning eller utendørs-strømforsyning.



3 DRILL HULL I VEGGEN OG INSTALLER EN RØRMUFFE



4 INSTALLASJON AV INNENDØRSENHET

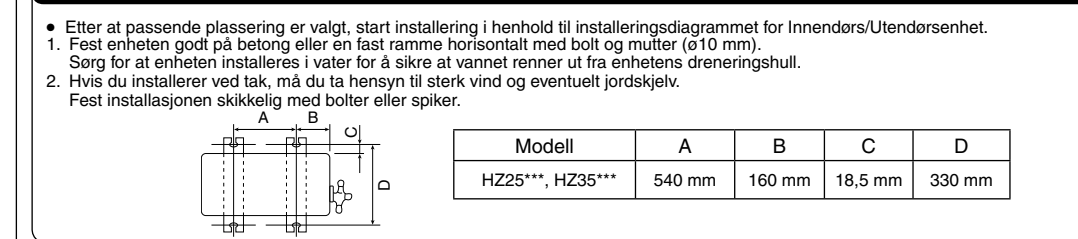


UTENDØRSENHET

1 VELG BESTE PLASSERING

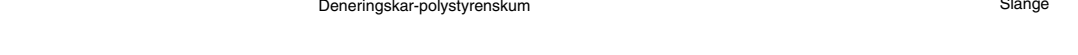
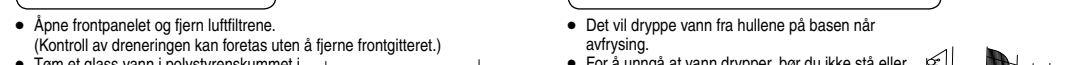
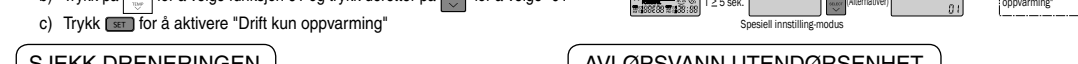
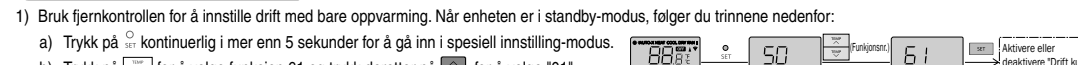
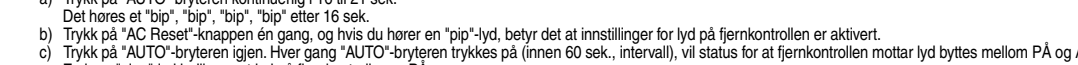
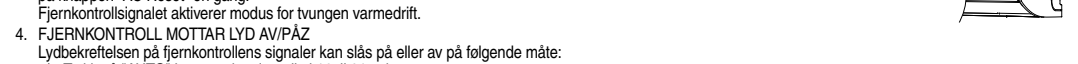
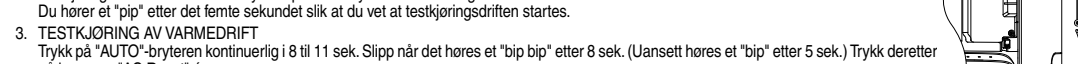
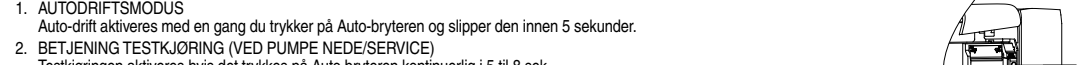
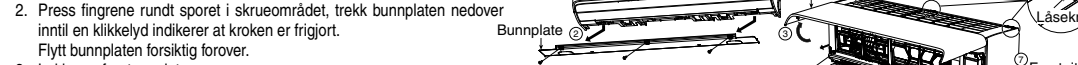
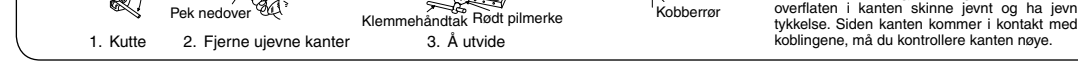
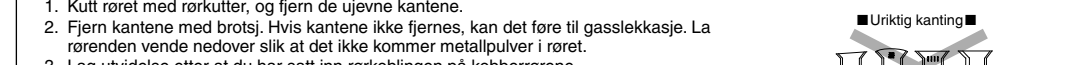
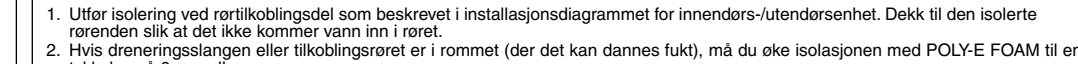
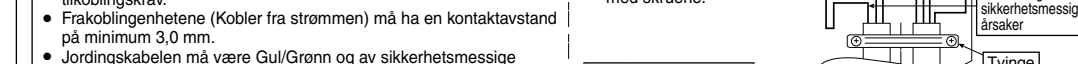
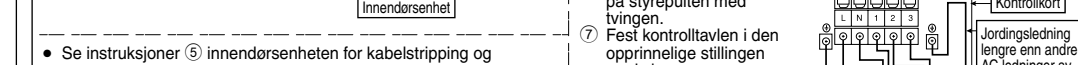
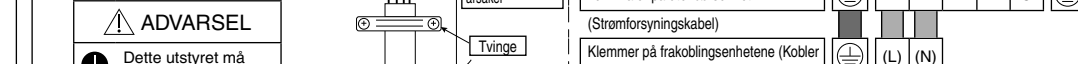
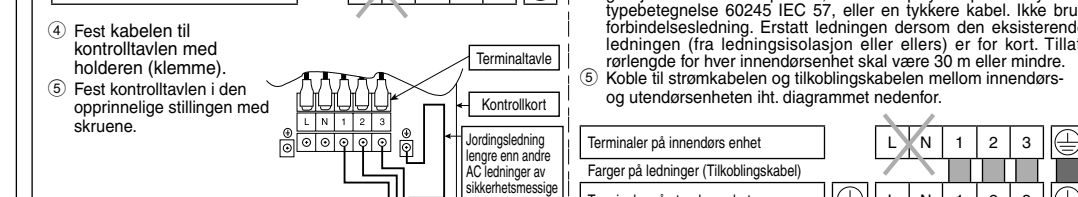
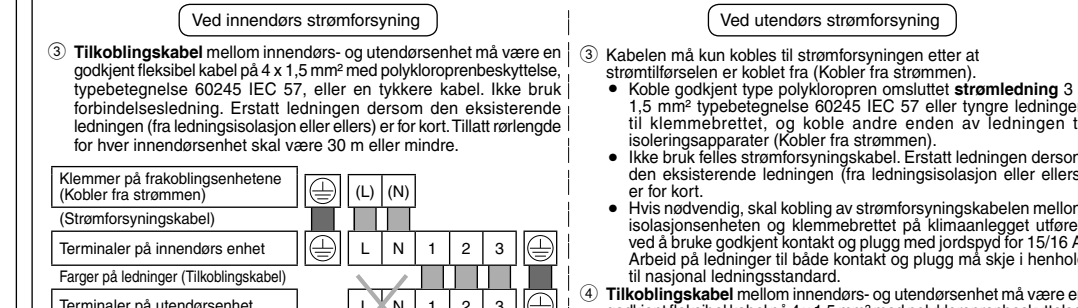
(Les avsnittet "Velg beste plassering")

2 INSTALLER UTENDØRSENHETEN

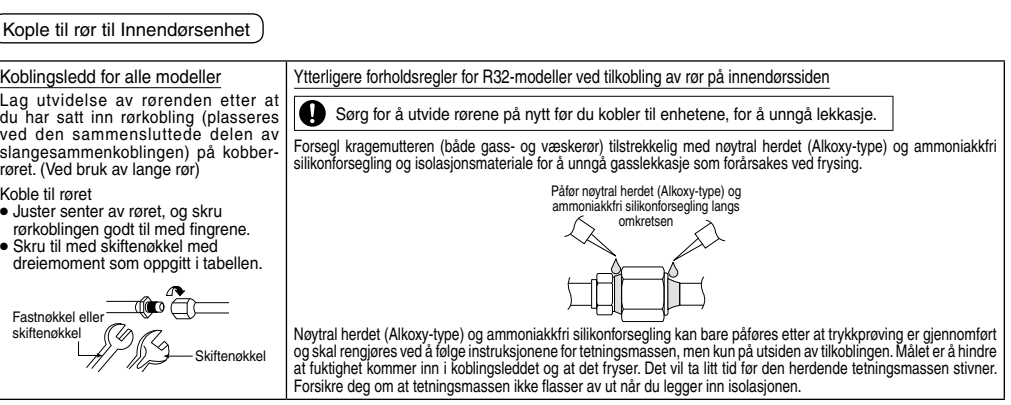


5 TILKOBLING AV KABELN TIL UTENDØRSENHETEN

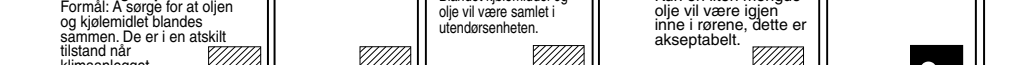
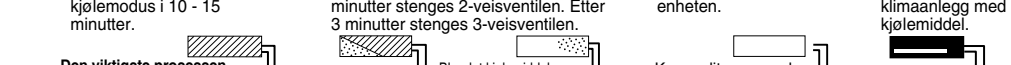
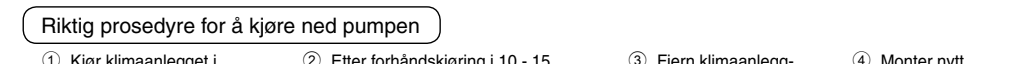
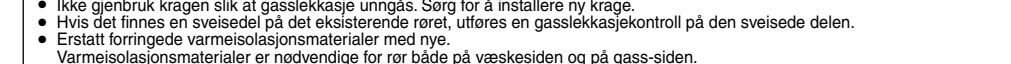
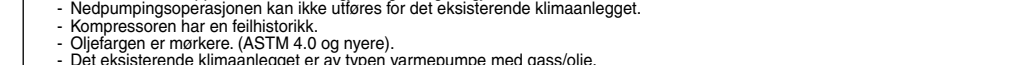
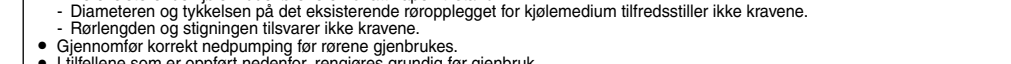
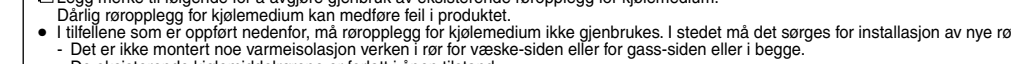
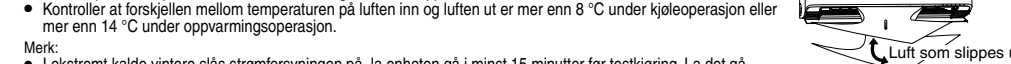
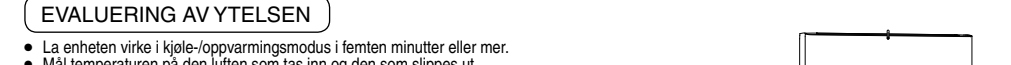
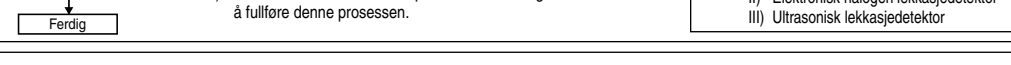
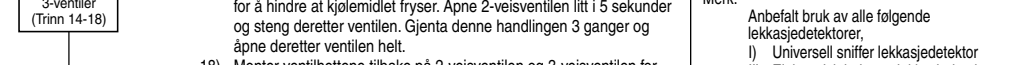
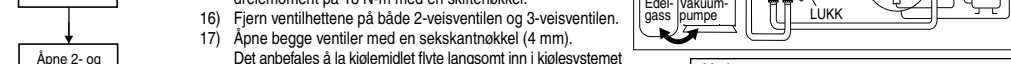
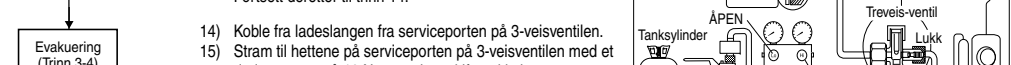
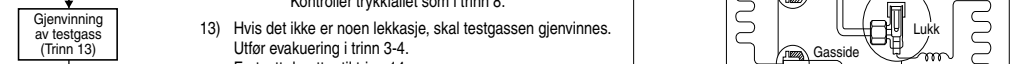
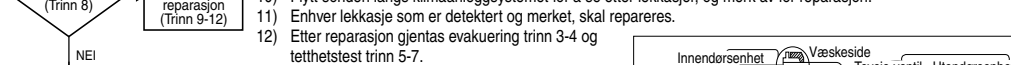
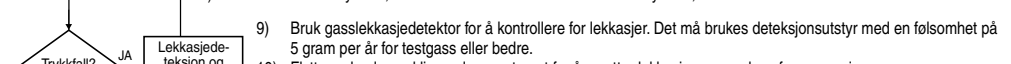
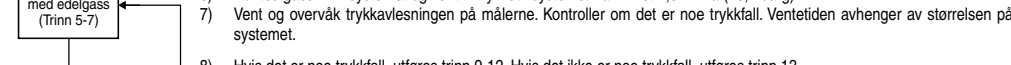
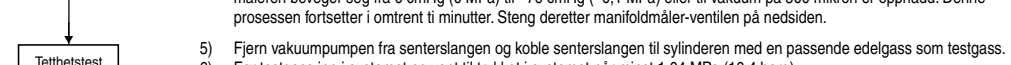
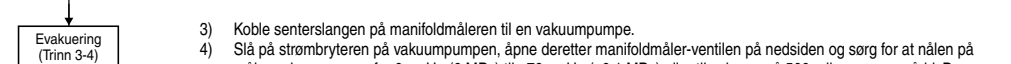
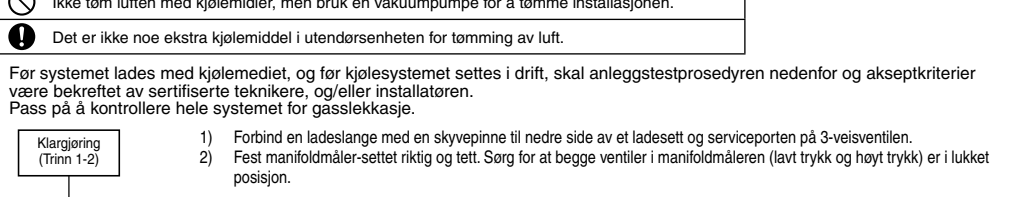
- Fjern kontrolltavens deksel fra enheten ved å løse på skruen.
- Tilkobling av kabel til enheten.



3 KOBLE TIL RØRET



- Fjern kontrolltavens deksel fra enheten ved å løse på skruen.
- Tilkobling av kabel til enheten.

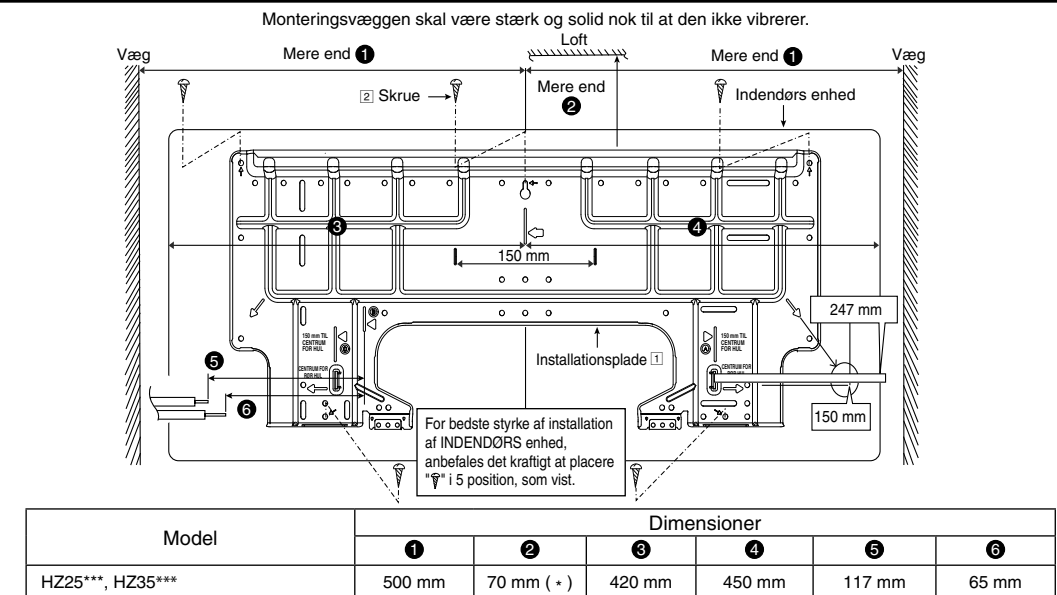


INDENDØRS ENHED

1 VÆLG DEN BEDSTE PLACERING

(Se sektionen "Vælg den bedste placering")

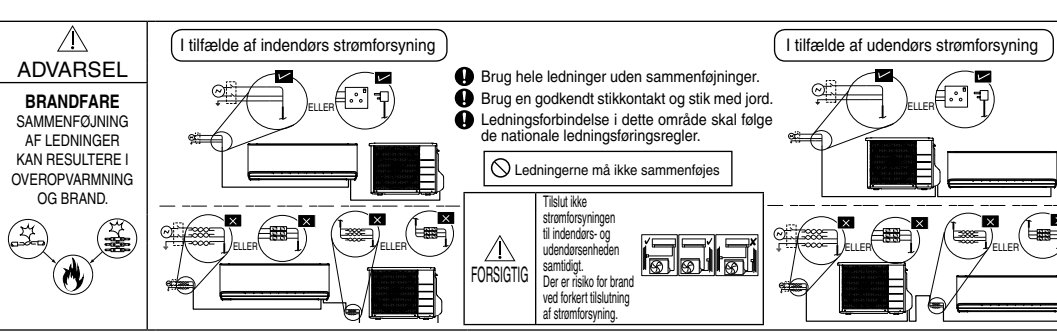
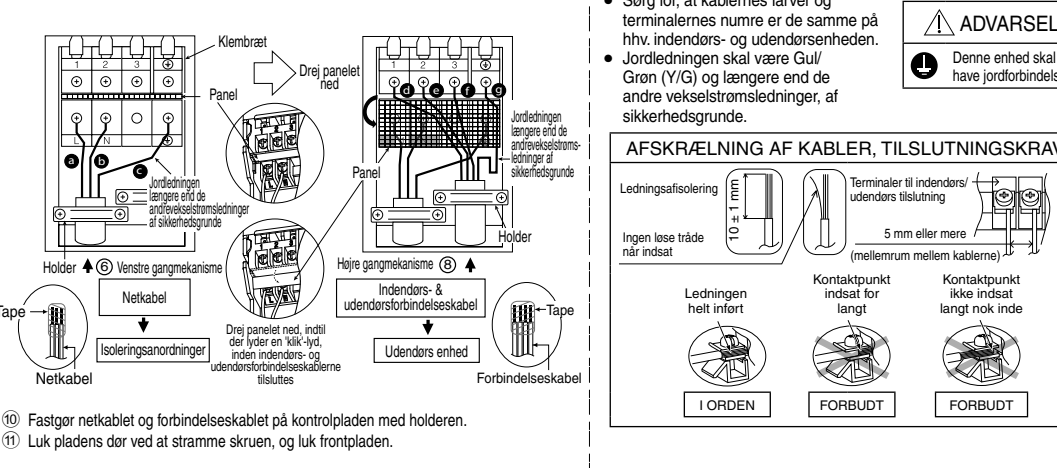
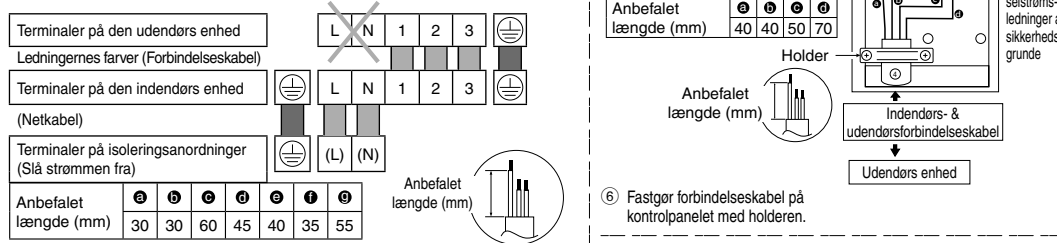
2 SÅDAN SÆTTER DU INSTALLATIONSPLADEN OP



Installationspladens centrum bør være mindst ① til højre og venstre for væggene. Afstanden fra installationspladens kant til loftet bør være mere end ②. Fra installationspladens midte til enhedens venstre side er ③. Fra installationspladens midte til enhedens højre side er ④. For rørsystem i venstre side bør der være ⑤ fra denne linie til væskørør. For rørsystem i venstre side bør der være omtrent ⑥ fra denne linie til gasørret. 1. Monter installationspladen på væggen ved brug af 5 skruer eller mere. (mindst 5 skruer). (Hvis du monterer enheden på en betongvæg bør du overveje at bruge forankringsbolte.) 2. Bør et hul til rørsystemet med et ø70 mm huloprømmerbør. 3. Lav en linie ud fra installationspladens højre og venstre side. Mådepunktet for den forlængede linie er hullets centrum. 4. En anden metode er at sætte målebåndet op som vist i diagrammet ovenfor. Hullets centrum findes ved at måle distancerne respektive 150 mm for det venstre og højre hul. 5. Bør rørlørløshullet på enten højre eller venstre side, og hullet skal let skrånende til den udendørs side.

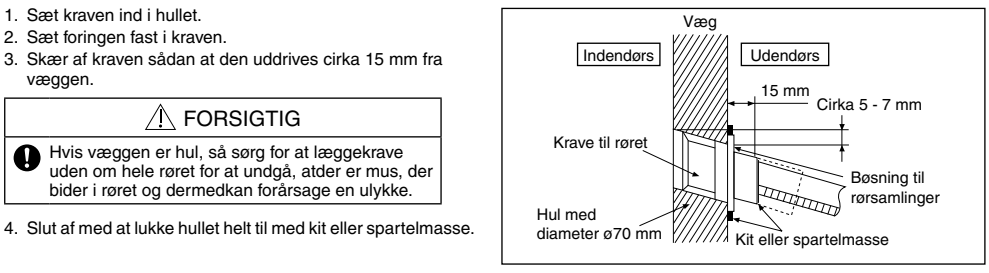
5 TILSLUTNING AF KABLET TIL DEN INDENDØRS ENHED

- Det indendørs- og udendørsforbindelseskabel kan forbindes uden at frontristen flyttes.
- Beslut dig for, hvilken type strømforsyningstilslutning, der skal anvendes: indendørs strømforsyning eller udendørs strømforsyning.
- I tilfælde af indendørs strømforsyning
 - Installer indendørsenheden på den installationsholder, som er monteret på væggen.
 - Åbn frontpladen og pladens dør ved at løsne skruen.
 - Kableforbindelse til strømforsyningen igennem isoleringsudstyr (Siå strømmen fra).
 - Slut et godkendt polykloropren-isoleret netkabel 3 x 1,5 mm² typebetegnelse 60245 IEC 57 eller kraftigere kabel til terminalpladen, og slut den anden ende af kablet til isolationsanordninger (Siå strømmen fra).
 - Der må ikke bruges en fælles strømforsyningssledning. Udskift ledningen, hvis den eksisterende ledning (fra den skjulte ledningsføring, eller andet) er for kort. Tilslut ledningskabel længde af hver indendørs enhed er 30 m eller mindre.
 - I alle tilfælde, skal monteringen af strømforsyningssledningen mellem klimaapparatets isolerede enheder og terminalpanelet udføres med en godkendt stikkontakt og stik med jord, normeret til 15/16 A. Ledningsføringen til både stikkontakten og stikket skal udføres i overensstemmelse med den nationale standard for ledningsføring.
 - Fastgør alle strømforsyningssledningens strømførende ledninger med bånd, og for strømforsyningssledningen gennem den venstre afstænd.
- Forbindelseskablet mellem en indendørs og udendørs enhed skal være lavet af godkendt polykloropren-beklædt 4 x 1,5 mm² fleksibel ledning af type 60245 IEC 57 eller stærkere. Det samlede forbindelseskabel må ikke bruges. Udskift ledningen, hvis den eksisterende ledning (fra den skjulte ledningsføring, eller andet) er for kort. Tilslut ledningskabel længde af hver indendørs enhed er 30 m eller mindre.
- Bind alle indendørs-udendørsforbindelseskablerne med tape og for forbindelseskablet igennem højre gangmekanismen.
- Fjern båndene og forbind nedledningen og forbindelseskablet mellem indendørs- og udendørsenheden i henhold til diagrammet nedenfor.

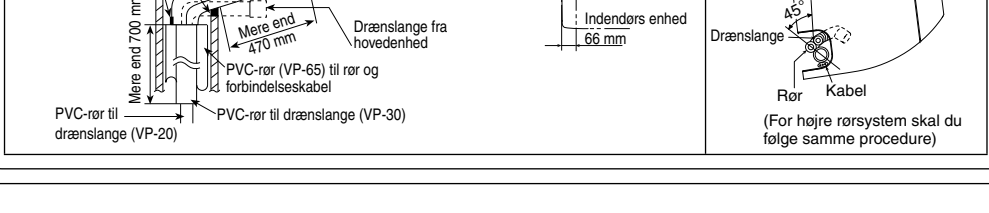
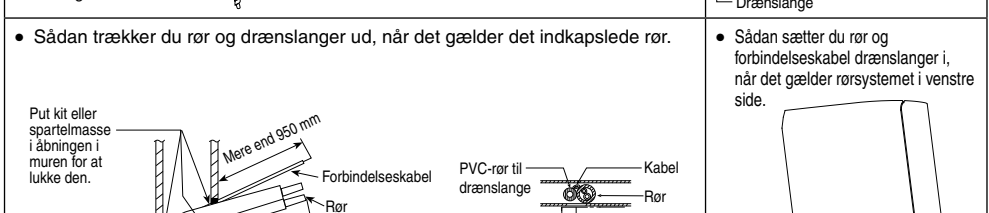
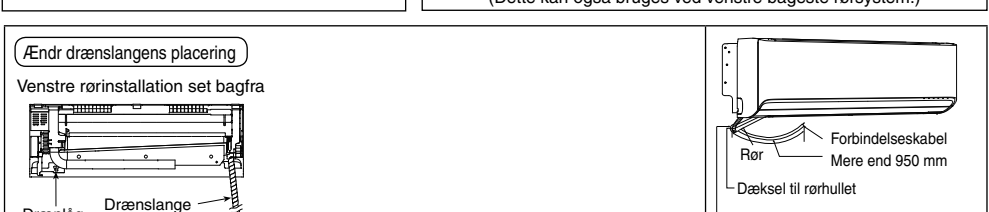
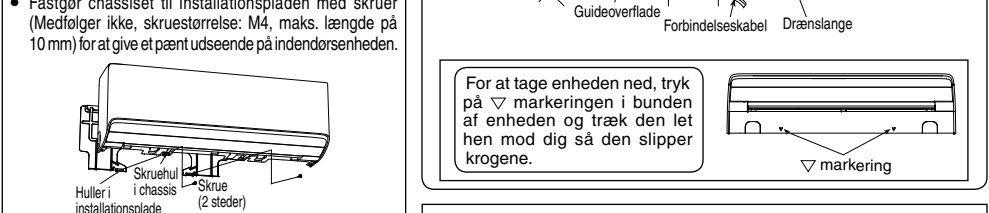
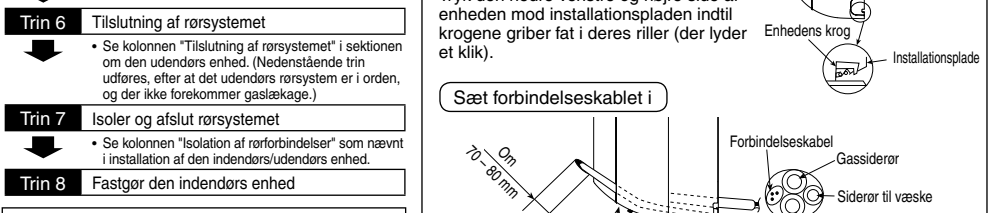
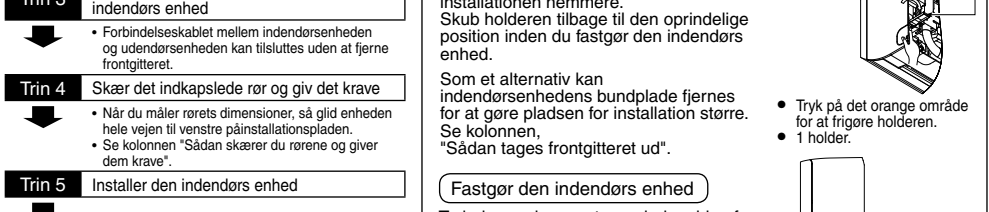
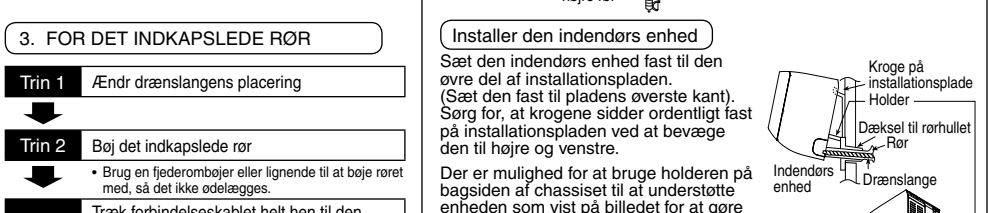
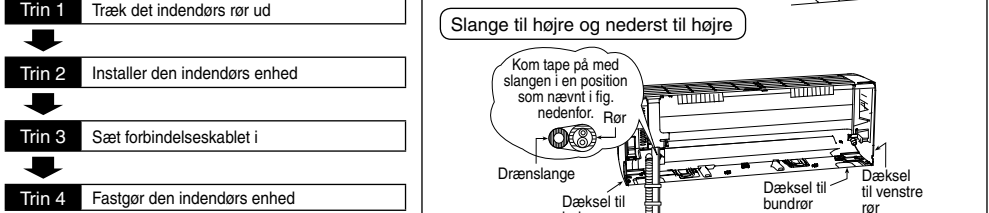
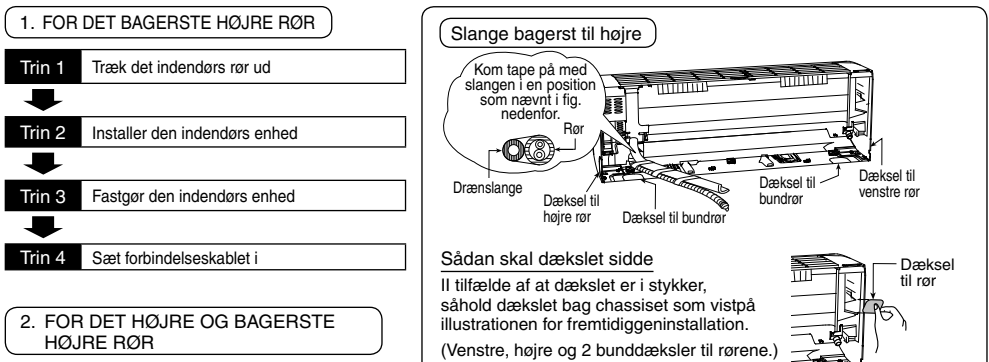
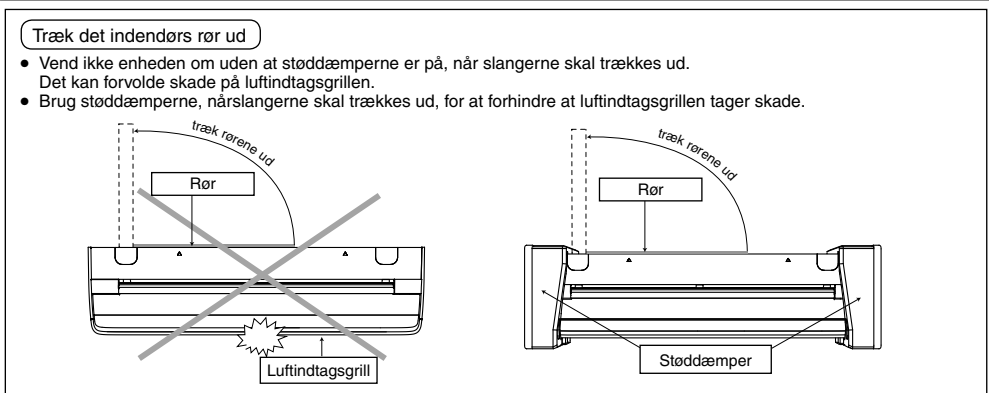


ADVARSEL
BRANDFARE SAMMENFØJNING AF LEDNINGER KAN RESULTERE I OVEROPVARMNING OG BRAND.
Sørg for, at kabellernes farver og terminalernes numre er de samme på hhv. indendørs- og udendørsenheden. Ledningsledningen skal være Gul/Grøn (Y/G) og længere end de andre vekselstrømsledninger, af sikkerhedsgrunde.
Lederne må ikke sammenføres.
Sørg for, at kabellernes farver og terminalernes numre er de samme på hhv. indendørs- og udendørsenheden. Ledningsledningen skal være Gul/Grøn (Y/G) og længere end de andre vekselstrømsledninger, af sikkerhedsgrunde.
Lederne må ikke sammenføres.
Sørg for, at kabellernes farver og terminalernes numre er de samme på hhv. indendørs- og udendørsenheden. Ledningsledningen skal være Gul/Grøn (Y/G) og længere end de andre vekselstrømsledninger, af sikkerhedsgrunde.
Lederne må ikke sammenføres.

3 SÅDAN BORER DU ET HUL I VÆGGEN OG MONTERER EN KRAVE TIL RØRSYSTEMET



4 INSTALLATION AF DEN INDENDØRS ENHED

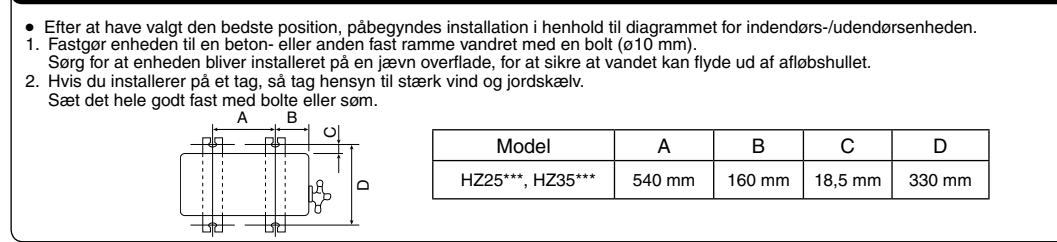


UDENDØRS ENHED

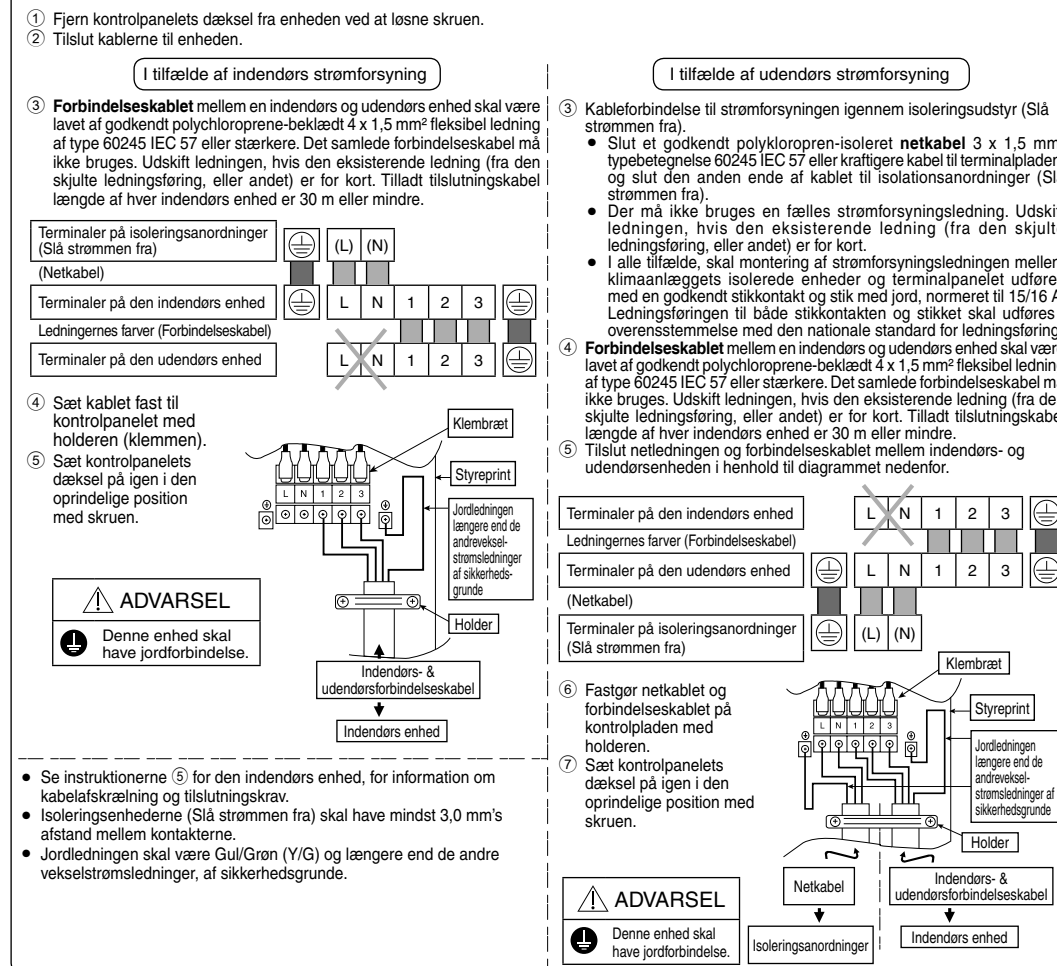
1 VÆLG DEN BEDSTE PLACERING

(Se sektionen "Vælg den bedste placering")

2 INSTALLER DEN UDENDØRS ENHED

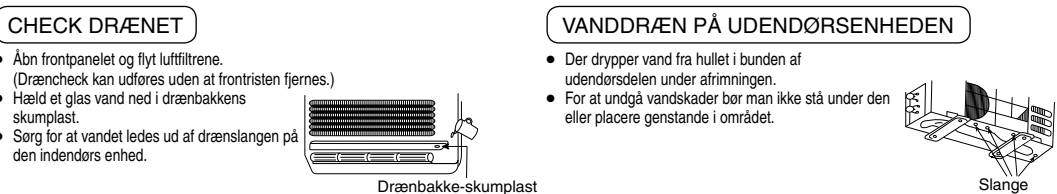
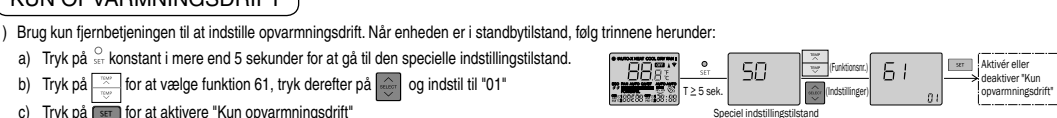
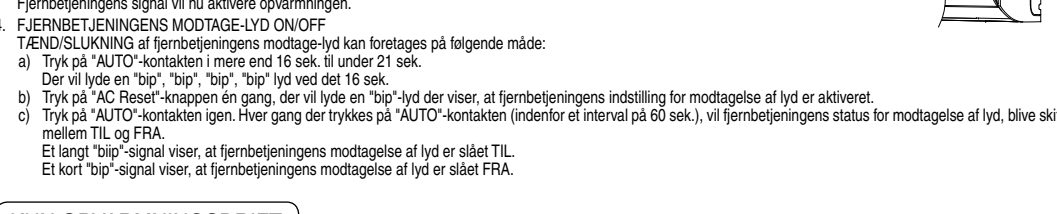
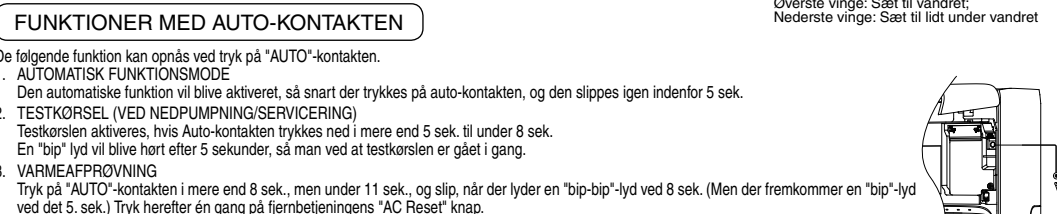
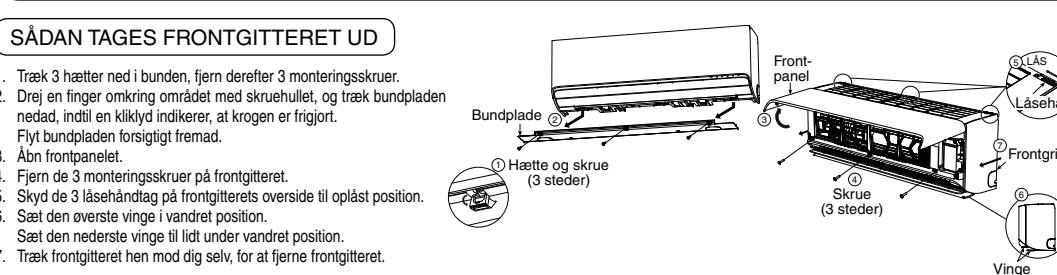
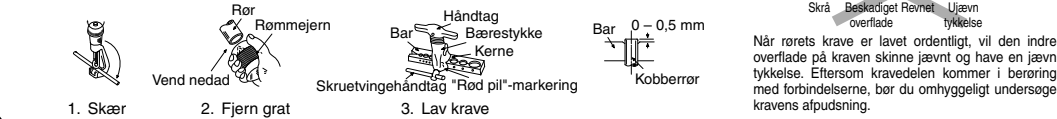


5 TILSLUTNING AF KABLET TIL DEN UDENDØRS ENHED

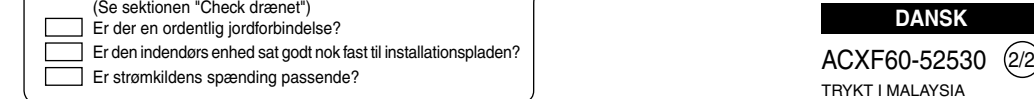
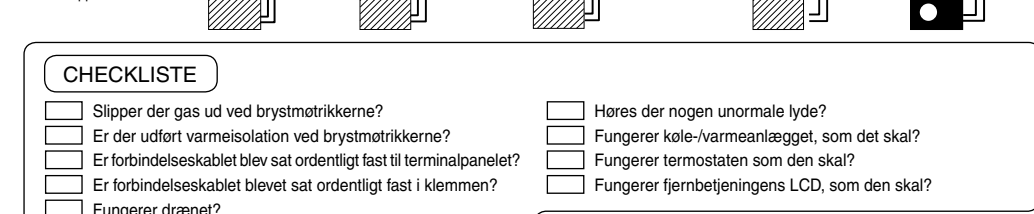
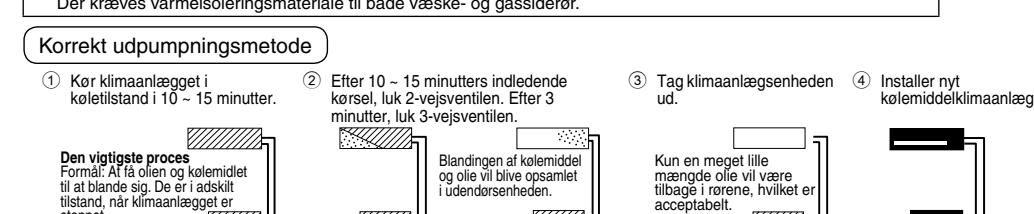
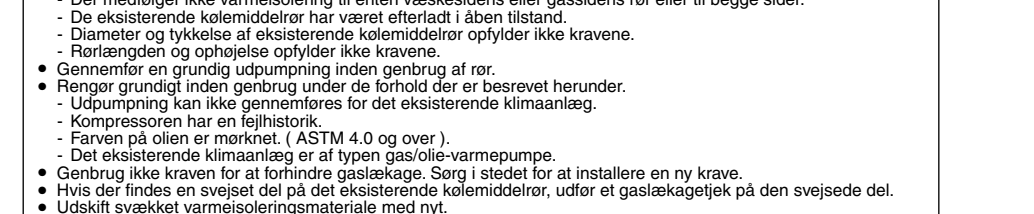
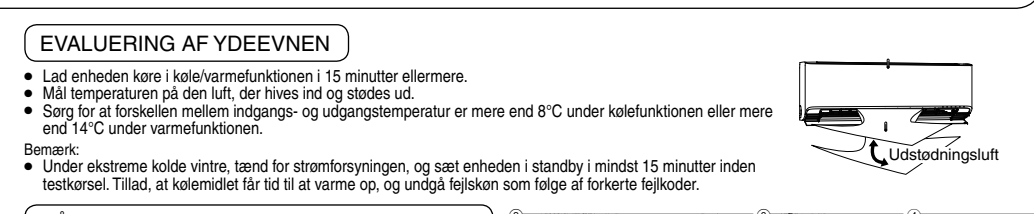
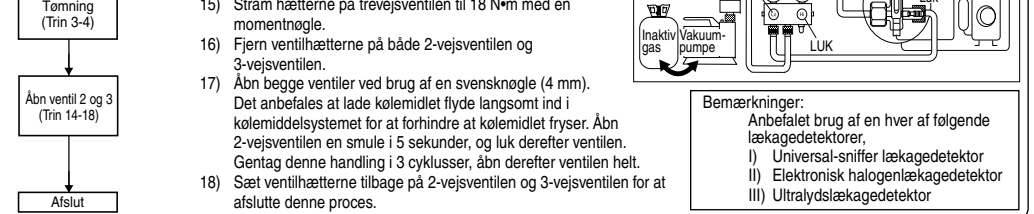
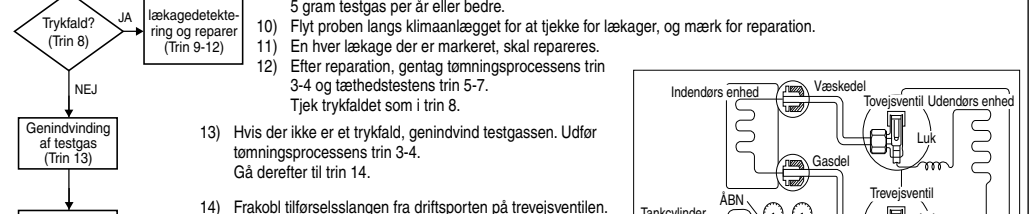
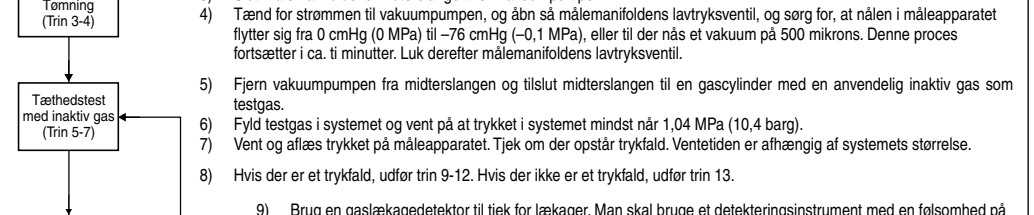
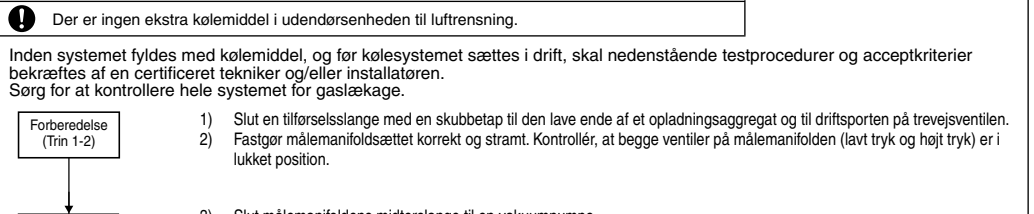
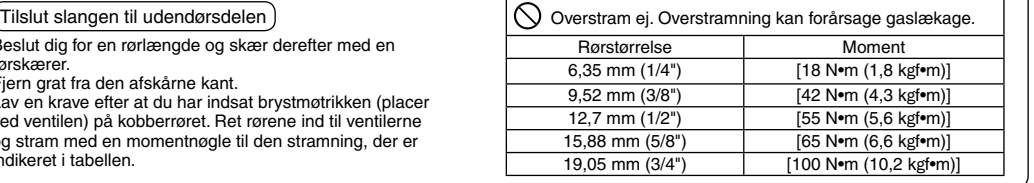
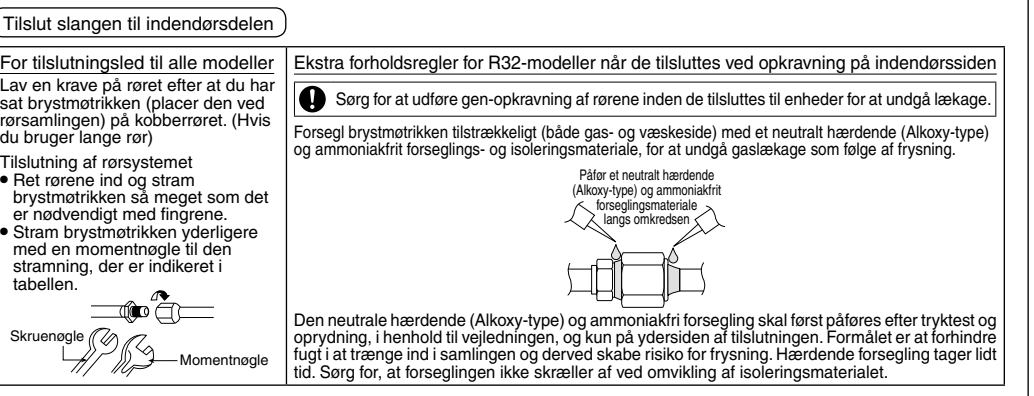


6 RØRISOLATION

- Isoler i rørforbindingsselen, som nævnt i installationsdiagrammet for den udendørs/indendørs enhed. Pak den isolerede rørende ind, så du undgår at der siver vand ind i rørsystemet.
- Hvis afblosselag eller forbindelsesorret er inde i rummet (hvor der kan dannes kondens), så isoler yderligere ved at bruge POLY-FOAM med en tykkelse på 6 mm eller mere.



3 TILSLUTNING AF RØRSYSTEMET



1 VALITSE PARAS SIJAINTI

Aseennuslutan keskustan tulisi olla yli ① oikeasta ja vasemmasta seinästä. Aseennuslutan ja katon välin tulee jädä yli ②. Elaissy aseennuslutan keskustasta laitteiden vasempaan sivuun on ③. • Jos ei ole aseennuslutan keskustasta laitteiden vasempaan sivuun on ④. • Vasemmanpuolel pukiien asennus, nesteputiin tulisi olla noin ⑤ päässä tästä viivasta. • Vasemmanpuolel pukiien asennus, kaasuputiin tulisi olla noin ⑥ päässä tästä viivasta. 1 Kiinnit aseennusluta seinään vähintään vältt riuvia käyttäen (vähintään 5 ruuvilla). (Asentaessasi luitteen betoniseinään, kiinnitysputiin käyttöä saattoa olla tarpeen.) • Sijoita aina aseennusluta vaakasoraan asentoon, sijoittamalla merkkivasaralla ja lanka yhdensuuntaisesti ja vesivaakaa käyttäen. 2 Poraa putkireikä alustaan ø70 mm porausnoiteella käyttäen. • Jos ei ole aseennuslutan alustusta, se voidaan tehdä reunaon noudattaen. Reiän keskikohta sijaitsee jaketun viivan kohtamispisteessä. Tuiken tulo on sijoittaa mittaamisetteippiä yllä olevan kuvan osittamaan paikkaan. Reiän keskikohta saadaan mittaamalla välimatka 150 mm oikeasta reistä. • Poraa putkireikää joko oikealle tai vasemmalle. Reiän tulisi olla hieman kallalellaan ulospäin.	Mitat (+) ; 1 2 3 4 5 6
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VAROITUS TULIPALOVAARA JÖRHOJEN YHDIÄMINEN SÄTTÄÄ ALUEITTAA JA TULIPALON.	Virransyöttö sisätiloissa	1 Käytä kokonaista johtoja yhdistämällä niitä. 2 Käytä hyväksyttyä pistotassaa ja maadoitettua pistotulppaa. 3 Johtojen liittäminen on tällä alueella noudatettava kansallisia kaapelointistandardeja. 4 Älä yhdiästä johtoja VAROITUS Älä liitä virranlähde sisä- ja ulkoilmoitteen samaan akseliin. Virranlähden väärin liittäminen aiheuttaa tulipalovaaran.	Virransyöttö ulkoilmoissa
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1. Laita holkki reikään.

2. Kiinnitä läpivientieristin holkkiin.

3. Leikkaa holkki niin, että ulosjäävä osa on noin 15 mm seinästä.

 VAROITUS!

Seinän ollessa ontto varmista että puttikokoonpanon asentamisen yhteydessä käytetään holkkia. Näin estetään hiiristä jyrmistä johtoja.

4. Viimelestele käyttäen kittiä tai muuta vastaavaa tiivistystä niin, että liitoksesta tulee tiivis.

The diagram illustrates the installation of a wall plug and fastener into a hollow wall. It shows a cross-section of the wall with a hole. A plug is inserted into the hole, and a fastener is attached to it. The fastener is used to secure a fastener for the installation of a fastener. The diagram also shows the use of sealant or other suitable sealing material to ensure a tight fit. The labels indicate the location of the wall, the plug, the fastener, and the sealant. The dimensions of the hole and the gap between the plug and the wall are also specified.

SUOMI
ACXF60-52540 (2/2)
PAINETTU MALESIASSA

1 GERIAUSIOS VIETOS PARINKIMAS

ACXF60-52560 (2/2)

