Installation Manual

DDMD

Ductable DCI R32

EN

25.AW.DDMD.IM.R32.EN.06.08

WARNINGS AND PRECAUTIONS

Read this document carefully before undertaking any installation work.

	This symbol indicates that this appliance uses a flammable refrigerant. There is a risk of fire if refrigerant leaks and is exposed to an external ignition source.
	This symbol indicates that qualified personnel must handle this equipment in accordance with the installation instructions.
	Read the operating instructions carefully.
	Follow the recommendations given in the installation manual and user manual.

WARNINGS AND PRECAUTIONS

Regulatory conditions for installation and maintenance

The installation and maintenance of the appliance must be carried out by a certified professional in accordance with the regulations and best practices in force, in particular:
France:

- Legislation on the handling of refrigerants: Decree 2007/737 and its implementing orders.
- The commissioning of this air conditioner requires the services of a qualified installer with a certificate of competence in accordance with Articles R 543-75 to 123 of the Environmental Code and its implementing decrees. This also applies to any other operation carried out on equipment requiring the handling of refrigerants.
- NF C 15-100 and its amendments: Low-voltage electrical installations - Rules.

R32 refrigerant

- To install the unit, use R32 refrigerant in case of additional charging, tools and connections specifically adapted to R32.
- This flammable fluid requires compliance with minimum surface areas and volumes for rooms where the appliance is installed, stored or used. Ensure that the application on site is in line with the size of the rooms being treated and the fluid charge of the installation (compliance with standard EN-378).
- Do not introduce any substances other than the recommended refrigerant into the appliance. If air enters the refrigeration circuit, the pressure in the circuit will increase abnormally and may break the connections.
- Do not release the refrigerant into the atmosphere. In the event of a refrigerant leak during installation, ventilate the room. At the end of installation, there must be no refrigerant leaks in the circuit. A fluid leak exposed to flames may cause toxic flames.
- Do not touch the refrigerant in the event of a leak from the connections or elsewhere. Direct contact may cause frostbite.
  frostbite.
- Do not install or store the unit near a heat source.
- Observe the safety and usage rules for R32 refrigerant.
- Comply with national regulations regarding gas.
- Do not drill or burn the appliance.

General information

- Dispose of packaging materials properly. Tear up plastic packaging and dispose of it in a place where children cannot play with it. Untorn plastic packaging can cause suffocation.
- This appliance contains no user-serviceable parts. Refer servicing to an authorised service technician.
- This appliance can be used by children aged 8 years and above and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children should not play with the appliance. Cleaning and user maintenance should not be carried out by children without supervision.

Handling

- The outdoor unit must not be laid flat during transport. Transporting the unit in a horizontal position may damage the appliance due to the displacement of the refrigerant and deformation of the compressor mountings. Damage caused by transport in a horizontal position is not covered by the warranty. If necessary, the outdoor unit may only be tilted when handled manually (to pass through a doorway or up stairs). This must be done with care and the unit must be returned to an upright position immediately.

Refrigeration connections

- All refrigeration circuits are susceptible to contamination by dust and moisture. If such pollutants enter the refrigeration circuit, they can contribute to a reduction in the reliability of the units. It is necessary to ensure that the refrigeration connections and circuits of the units are properly sealed. In the event of a subsequent failure and upon inspection, the presence of moisture or foreign matter in the compressor oil will automatically void the warranty.
- Upon receipt, check that the refrigeration circuit connections and plugs fitted to the indoor and outdoor units are securely in place and locked (impossible to loosen by hand). If this is not the case, lock them using a wrench.
- Check that the refrigeration connections are properly sealed (plastic plugs or tubes crushed at the ends and soldered). If the plugs need to be removed during work (e.g. tubes cut), replace them as soon as possible to avoid contamination of the tube.
- Do not use blue paste or sealant on refrigeration connections as this will block them. Doing so will void the appliance warranty.
- Do not use ordinary mineral oil on flare fittings. Use POE refrigeration oil, taking care to prevent it from entering the circuit, as this may reduce the service life of the equipment.
- Use dry nitrogen to flush out metal filings from the pipes and prevent moisture from entering that could damage the appliance.
- The flare connection of the refrigeration lines must be made outdoors.

Batteries

- Keep batteries out of the reach of children.
- If the remote control is not used for a long period of time, remove the batteries to prevent possible leaks that could damage the appliance.
- If liquid from the batteries comes into contact with your skin, eyes or mouth, rinse immediately with plenty of water and consult your doctor.
- Used batteries should be removed immediately and recycled appropriately.
- Do not attempt to recharge batteries.

Installation

- Before carrying out any work, ensure that the main power supply is switched off.
- The installation must be carried out in strict compliance with the standards in force at the installation site and the manufacturer's installation instructions.
- The installer must install the unit in accordance with the recommendations given in this manual. Incorrect installation can cause serious damage such as refrigerant or water leaks, electric shocks or fire hazards. If the unit is not installed in accordance with this manual, the manufacturer's warranty will be invalid.
- Only qualified personnel are authorised to handle, fill, purge and dispose of the refrigerant.
- These air conditioners are intended for residential and commercial use to ensure the thermal comfort of users. They are not intended for use in locations with excessive humidity (florists, indoor greenhouses, wine cellars, etc.), where the ambient air is dusty, or where there is significant electromagnetic interference (computer rooms, proximity to television antennas or relays)..
- The units are not explosion-proof and must not be installed in explosive atmospheres.
- Take appropriate measures to prevent the outdoor unit from being used as a shelter by small animals. Animals that come into contact with electrical parts may cause malfunctions or fires. Inform the customer that they must keep the area around the unit clean.
- Install the units in a location where it will be easy to install the gas, liquid and condensate drain pipes. condensate pipes.
- Install the air conditioner on a foundation that is strong enough to support the weight of the unit. An Insufficiently solid foundations may cause the unit to fall and result in injury.
- Install the indoor unit, outdoor unit, power cables, interconnect cables and remote control cables at least 1 metre away from a television or radio receiver. This precaution is intended to prevent interference with the television reception signal or noise on the radio signal (however, even at a distance of more than 1 m, the signals may still be disrupted).
- If you move house, call an installer to disconnect and reinstall the appliance.
- Be sure to use the parts supplied or specified in the manual when carrying out installation work.
- Secure the electrical box cover and service panel of the units correctly. If the cover of the unit's electrical box or the service panel is not properly secured, there is a risk of fire or electrocution due to the presence of dust, water, etc.

Electrical connections

- The electrical installation must be carried out in accordance with the regulations in force, in particular: standard NF C 15-100.
- If the power cable is damaged, it must be replaced with a special cable or assembly. available from the manufacturer or its after-sales service.
- The indoor unit operates at a nominal voltage of 230 volts 50Hz. At no time (including during start-up) should the voltage fall below 198 V or exceed 264 V at the terminals of the unit.
- The maximum cable length depends on the voltage drop, which must be less than 2%. If the cable length is excessive, use a larger cable cross-section.
- Electrical connections shall only be made once all other assembly operations (fixing, assembly, etc.) have been completed.
- Check that the wiring is not subject to wear, corrosion, excessive pressure, vibrations, sharp edges or any other harmful environmental effects.
- Atlantic air conditioning units are designed to operate with the following neutral systems: TT and TN. The IT neutral system is not suitable for these units (use an isolation transformer). Single-phase power supplies without neutral (between phases) are strictly prohibited. For three-phase units, the neutral must also always be distributed (TT or TN).
- The contract with the energy supplier must be sufficient to cover not only the power of the unit but also the sum of the power of all units that may be operating at the same time. If the power is insufficient, check with the energy supplier to find out the power rating specified in your contract.
- Obtain the cable specifications and harmonic current, etc. from the electricity distribution network operator.
- Never use a power socket for the power supply.
- Use a dedicated power supply circuit. Do not share the power supply with another device.
- Use an independent power line protected by an omnipolar circuit breaker with contacts greater than 3 mm to power the device.
- The electrical installation must be equipped with a 30 mA residual current device.
- Ensure that the circuit breaker is located in a place where users cannot start or stop it unintentionally (annex room, etc.). When the electrical panel is located outdoors, close and lock it so that it cannot be easily accessed.
- Except in an emergency, never switch off the main circuit breaker or the circuit breaker for the indoor units during operation. Doing so would cause the compressor to fail and water to leak. Only switch off the indoor unit using any type of remote control or an external input device (switch), then switch off the circuit breaker.
- Never touch electrical components immediately after the power has been turned off. An electric shock may occur. After turning off the power, always wait 10 minutes before touching electrical components. Static electricity in the human body can damage components. Discharge static electricity from your body.
- Ground the unit. Incorrect grounding may result in electric shock.
- Incorrect wiring may damage the entire system.
- When the voltage is too low or drops during start-up, the appliance may have difficulty starting. start up. In this case, consult your ERDF agency.
- Ensure that all cables are secure, use wires that comply with current standards (NF C 15-100 in particular), and that no force is exerted on the terminal connections or cables.

SUMMARY

1 STANDARD ACCESSORIES 10

1.1 OUTDOOR UNIT 10
1.2 INDOOR UNIT 10

2 MOVING THE OUTDOOR UNIT 11

3 INSTALLATION 11

3.1 OUTDOOR UNIT 11
3.1.1 Single outdoor unit 12
3.1.2 Multiple outdoor units 13
3.1.3 Dimensions YDAX 25 – 35 16
3.1.4 YDAX 50 dimensions 17
3.1.5 Dimensions YDAX 70 18
3.1.6 Dimensions YDAX 90 – 100 – 120 19
3.1.7 Dimensions YDAX 140 – 175 20
3.1.8 Ground anchoring 21
3.1.9 Removing the covers 22
3.2 INTERIOR UNIT 23
3.2.1 Horizontal installation 24
3.2.2 Vertical installation 25
3.2.3 Service space 25
3.2.4 Dimensions and positions of fixings 26

4 INSTALLATION 27

4.1 FIXING THE INDOOR UNIT BODY 27
4.2 LEVELLING 28
4.3 AIR INTAKE POSITION 29
4.4 POSITION OF THE CONDENSATE PUMP 30

5 CONDENSATE DRAINAGE 31

5.1 OUTDOOR UNIT 31
5.2 INDOOR UNIT 31
5.2.1 Condensate drain pipe riser 32
5.2.2 Installation procedure 33
5.3 REFRIGERATION CONNECTIONS 34
5.3.1 Formatting 35
5.3.2 Flare connection 35
5.3.3 Insulation 37

6 ELECTRICAL CONNECTION 38

6.1 ELECTRICAL SIZING 38
6.1.1 Cable preparation 38
6.1.2 Terminals 40
6.1.3 Cable routing 40

7 COMMISSIONING OF THE INSTALLATION 41

7.1 PRECAUTIONS 41
7.2 EQUIPMENT TO BE OBTAINED 41
7.2.1 Check for leaks (no leaks) 41
7.2.2 Vacuum test 42
7.3 ADDITIONAL CHARGE (IF NECESSARY) 43
7.4 GAS FILLING 43
7.5 CHECKING THE CIRCUIT FOR LEAKS 44
7.6 TESTING THE DEVICE 44
7.7 REPATRIATION OF REFRIGERANT TO THE OUTDOOR UNIT (PUMP DOWN) 44

8 STATIC PRESSURE ADJUSTMENT 45

8.1 MANUAL ADJUSTMENT 45
8.2 AUTOMATIC ADJUSTMENT 46

9 EXTERNAL INPUTS AND OUTPUTS 47

9.1 ON/OFF CONTACT 47
9.2 ALARM OUTPUT 47
9.3 FRESH AIR CONNECTION 47
9.3.1 Fresh air inlet position 47
9.3.2 Fan connection 48
9.4 WIRED REMOTE CONTROL CONNECTION 48
9.5 XYE CONNECTION 48
9.5.1 Centralised remote control 48
9.5.2 Use in duo/trio/quatro mode 48

10 GROUP REMOTE CONTROL 49

10.1 WIRING 49
10.2 ADDRESS SETTING 50

11 CONTROL WITH 2 REMOTE CONTROLS 51

11.1 CABLING 51
11.2 ADJUSTMENT 51

12 FUNCTIONS AND PARAMETERS 52

12.1 COLD MODE LOCK 52
12.2 FAN OPERATION 52
12.3 MASTER/SLAVE SETTING 52
12.4 ANTI-COLD AIR FUNCTION 53
12.5 COMPENSATION TEMPERATURE IN HEATING MODE 53
12.6 AUTOMATIC RESTART FUNCTION 53

13 CHECK BEFORE POWERING UP 54

14 OPERATIONAL TEST 54

15 ERROR CODES 55

16 MAINTENANCE 57

17 MAINTENANCE 58

COOLING AND HEATING CAPACITIES

	Power	
	Nominal cooling capacity (Minimum/Maximum)	Nominal heating capacity (Minimum/Maximum)
DDMD-025N-09M25	2640 W (350 W / 3820 W)	2930 W (940 W / 3480 W)
DDMD-035N-09M25	3520 W (530 W / 3910 W)	3810 W (1000 W / 4470 W)
DDMD-050N-09M25	5280 W (1320 W / 6160 W)	6010 W (1500 W / 6310 W)
DDMD-070N-09M25	7090 W (3230 W / 7920 W)	8000 W (2790 W / 8560 W)
DDMD-090N-09M25	8790 W (2230 W / 9970 W)	9380 W (2700 W / 10000 W)
DDMD-100N-09M25	10,550 W (2,750 W / 11,730 W)	11720 W (2780 W / 12610 W)
DDMD-120N-09M25	12,110 W (2,930 W / 12,310 W)	13,480 W (3,370 W / 14,070 W)
DDMD-140N-09M25	14070 W (3520 W / 15830 W)	16120 W (4110 W / 17590 W)
DDMD-175N-09M25	15240 W (4100 W / 17290 W)	18180 W (4400 W / 20520 W)

ELECTRICAL DIMENSIONS

	Power cable	Circuit breaker rating
YDAX-025H-09M25	3G1.5 mm²	16 A
YDAX-035H-09M25	3G1.5 mm²	16 A
YDAX-050H-09M25	3G1.5 mm²	16 A
YDAX-070H-09M25	3G2.5 mm²	20 A
YDAX-090H-09M25	3G4 mm²	25 A
YDAX-100H-09M25	3G4 mm²	25 A
YDAX-100H-09T35	5G2.5 mm²	16 A
YDAX-120R-09M25	3G4 mm²	25 A
YDAX-140R-09T35	5G2.5 mm²	16 A
YDAX-175R-09T35	5G2.5 mm²	16 A

	Interconnect cable
DDMD-025N-09M25	4G1.5 mm²
DDMD-035N-09M25	
DDMD-050N-09M25	
DDMD-070N-09M25	
DDMD-090N-09M25	
DDMD-100N-09M25	
DDMD-120N-09M25	
DDMD-140N-09M25	
DDMD-175N-09M25	

REFRIGERATION LINKS

	Liquid pipe diameter	Gas tube diameter
YDAX-025H-09M25	1/4" – 6.35 mm	3/8" – 9.52 mm
YDAX-035H-09M25	1/4" – 6.35 mm	3/8'' – 9.52 mm
YDAX-050H-09M25	1/4" – 6.35 mm	1/2" – 12.70 mm
YDAX-070H-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-090H-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-100H-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
YDAX-100H-09T35	3/8" – 9.52 mm	5/8" – 15.87 mm
YDAX-120R-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-140R-09T35	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-175R-09T35	3/8" – 9.52 mm	5/8'' – 15.87 mm

	Liquid tube diameter	Gas tube diameter
DDMD-025N-09M25	1/4" – 6.35 mm	3/8" – 9.52 mm
DDMD-035N-09M25	1/4" – 6.35 mm	3/8" – 9.52 mm
DDMD-050N-09M25	1/4" – 6.35 mm	1/2" – 12.70 mm
DDMD-070N-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
DDMD-090N-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
DDMD-100N-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
DDMD-120N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
DDMD-140N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
DDMD-175N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm

	Preload (m)	Minimum/maximum length (m)	Max height difference (m)
YDAX-025H-09M25	5	5 / 25	10
YDAX-035H-09M25		5 / 25	10
YDAX-050H-09M25		5 / 30	20
YDAX-070H-09M25		5 / 50	25
YDAX-090H-09M25		5 / 50	25
YDAX-100H-09M25		5 / 75	30
YDAX-100H-09T35		5 / 75	30
YDAX-120R-09M25		5 / 75	30
YDAX-140R-09T35		5 / 75	30
YDAX-175R-09T35		5 / 75	30

1 STANDARD ACCESSORIES

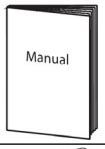
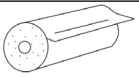
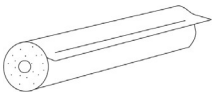
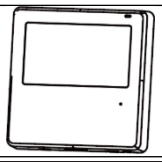
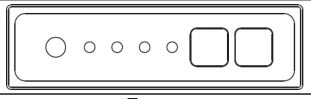
1.1 Outdoor unit

Standard accessories are always included in the packaging. Retrieve the accessories and instructions before disposing of the packaging. Use the accessories in accordance with the instructions.

Designation	Image	Quantity
Condensate outlet		1
Seal		1

1.2 Indoor unit

Standard accessories are always included in the packaging. Retrieve the accessories and instructions before disposing of the packaging. Use the accessories in accordance with the instructions.

Accessories	Image	Quantity
Installation instructions User manual		2
Insulating sleeve (small)		1
Insulating sleeve (large)		1
Flare connector		2
Clamps		2
Cable for test display		1
Wired remote control		1
Test display		1
Ferrite		1

2 MOVING THE OUTDOOR UNIT

- Do not touch the fins, as there is a risk of cutting yourself.
- Carry the unit carefully, holding it by the right and left handles.

3 INSTALLATION

3.1 Outdoor unit

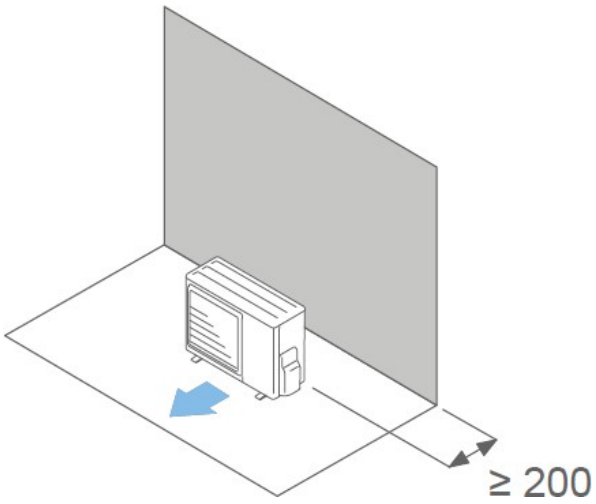
The choice of location is particularly important, as subsequent relocation is a delicate operation that must be carried out by qualified personnel.
Decide on the installation location after discussion with the customer.

- Install the outdoor unit in a location that can support its weight and does not transmit vibrations.
- Install the outdoor unit horizontally.
- Ensure that you have the specified space to ensure proper air circulation. The air inlet and outlet must not be obstructed under any circumstances.
- Avoid installing the unit in direct sunlight.
- Do not install the unit near a source of heat, steam or flammable gases.
- During hot mode operation, condensation water will drain from the outdoor unit. Ensure that all necessary measures are taken to ensure that this water drains freely and does not cause damage to buildings.
- Do not install the unit facing the wind, in a location exposed to strong winds or dust.
- Do not install the unit in a high-traffic area.
- Install the outdoor unit in an area where it will not cause a nuisance to neighbours who may be affected by airflow, noise or vibration. If the outdoor unit is to be installed near neighbours, ensure that you have obtained their consent beforehand.
- Avoid installing the outdoor unit in a location where it may be exposed to dirt or significant water runoff (e.g. under a faulty gutter).
- Check whether it is possible and easy to connect the pipes to the indoor units.
- Consider servicing and maintenance when choosing the location. Leave sufficient space for easy access to the air conditioner.

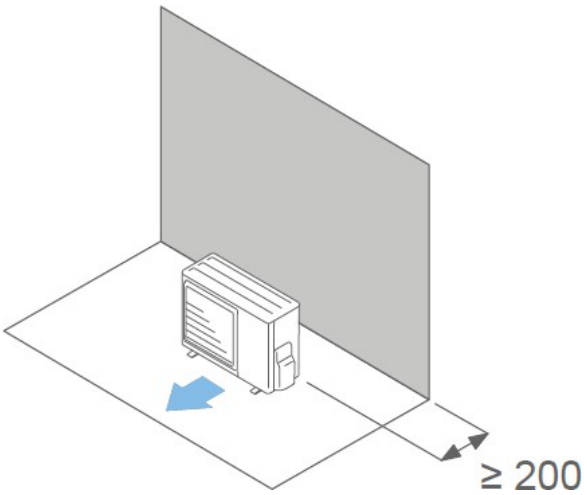
3.1.1 Single outdoor unit

Top of outdoor unit uncovered

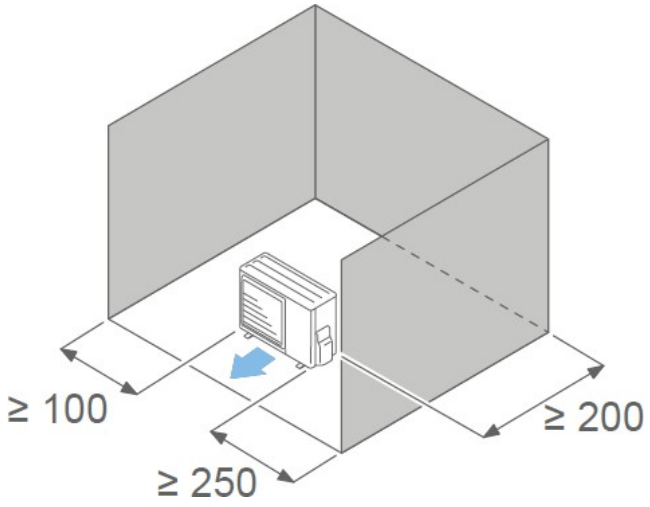
Obstacle only behind



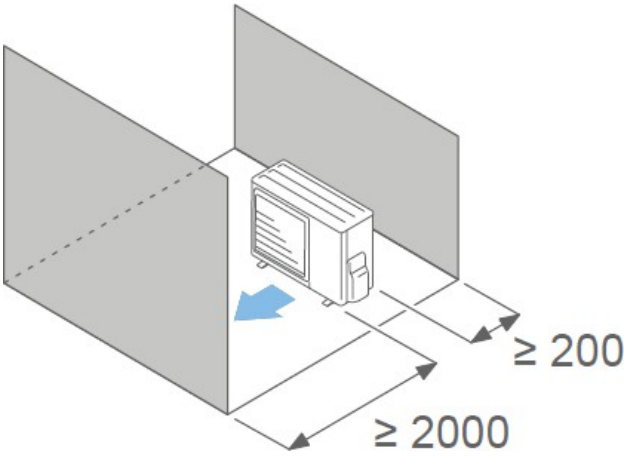
Obstacle only in front



Obstacles behind and on the sides



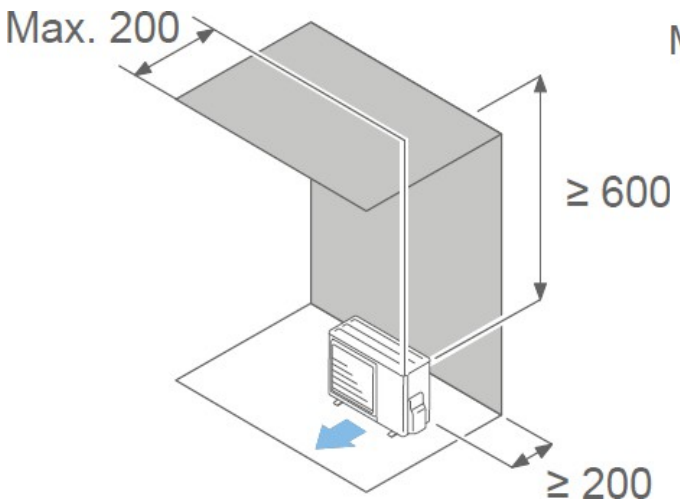
Obstacles in front and behind



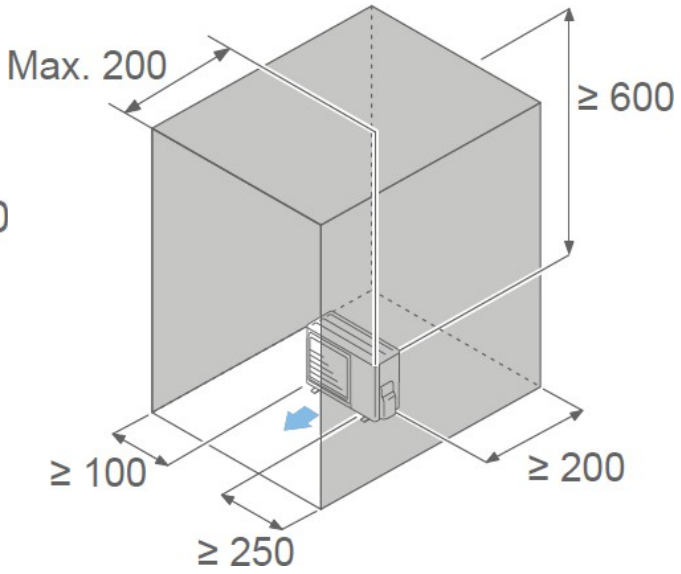
Unit: mm

Top of outdoor unit covered

Obstacle behind and above



Obstacle behind, on the sides and above



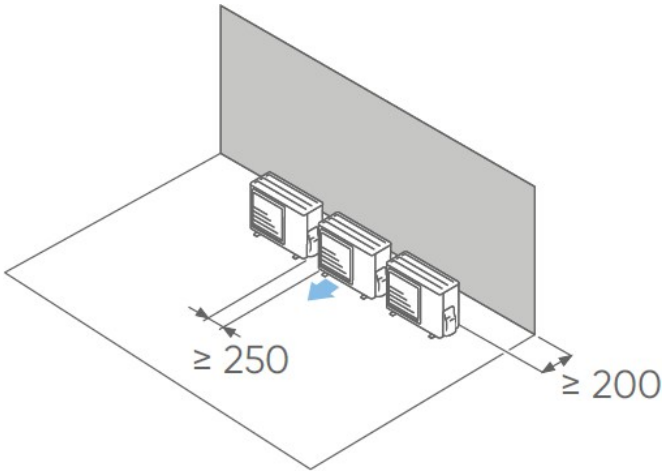
Unit: mm

3.1.2 Multiple outdoor units

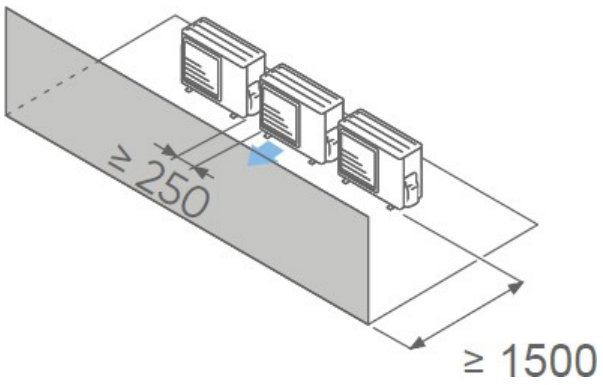
1. Leave a minimum of 250 mm space between outdoor units if they are installed side by side.
2. When connections are routed along the side of an outdoor unit, leave sufficient space for installation and maintenance of the connections.
3. No more than 3 units should be installed side by side. When more than 3 units need to be installed in a line, leave sufficient space as shown in the example (when there is also an obstacle above).

Top of outdoor units not covered

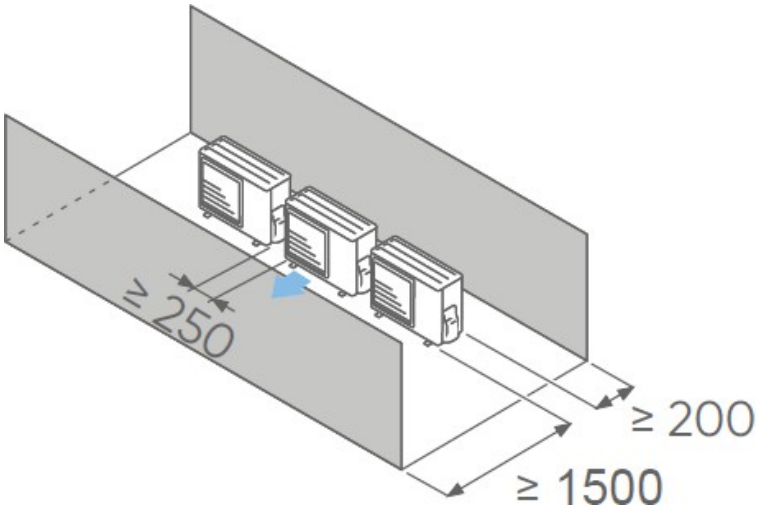
Obstacle only behind



Obstacle only in front

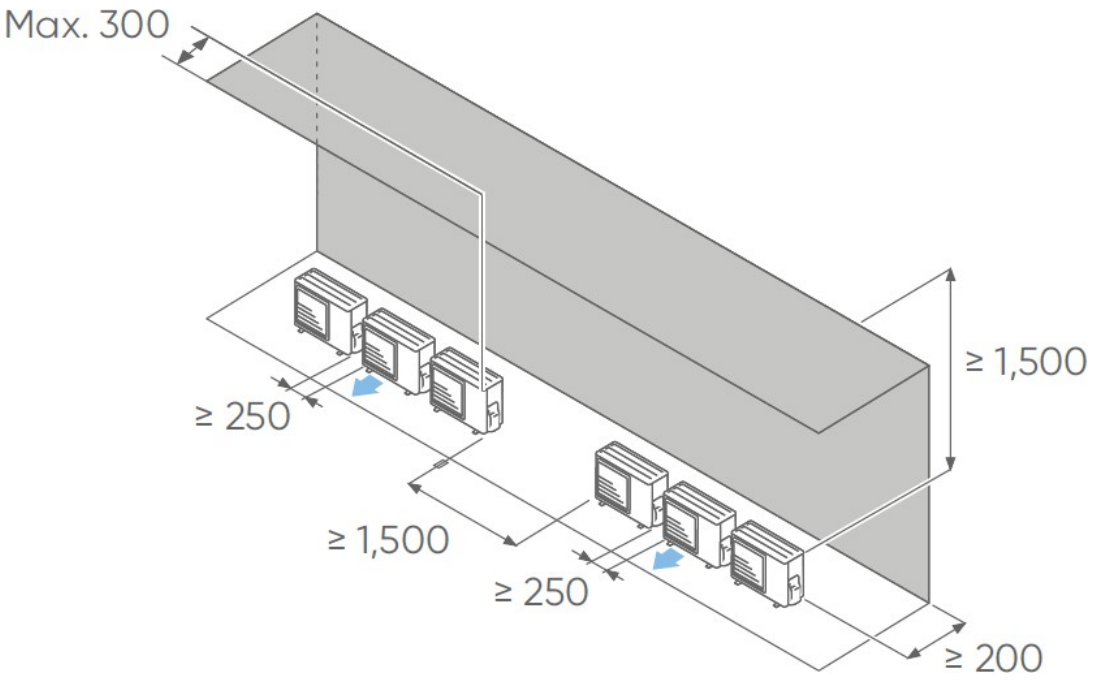


Obstacles in front and behind

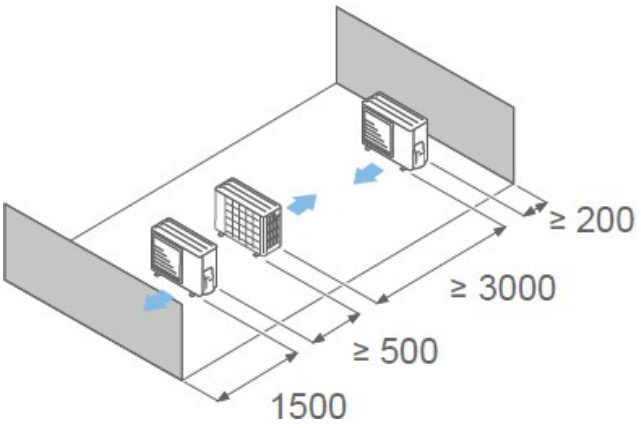


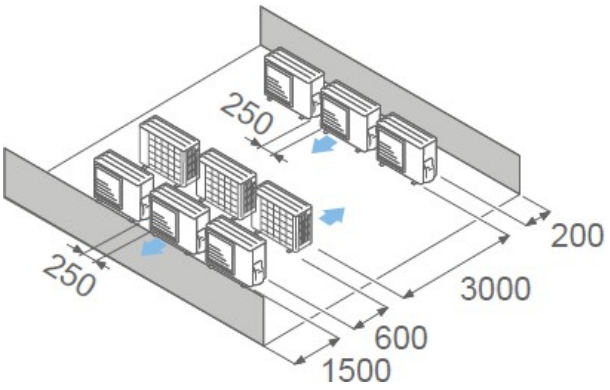
Unit: mm

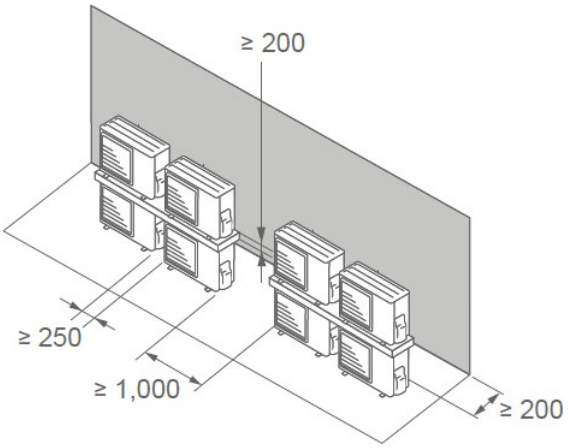
Top of outdoor units covered



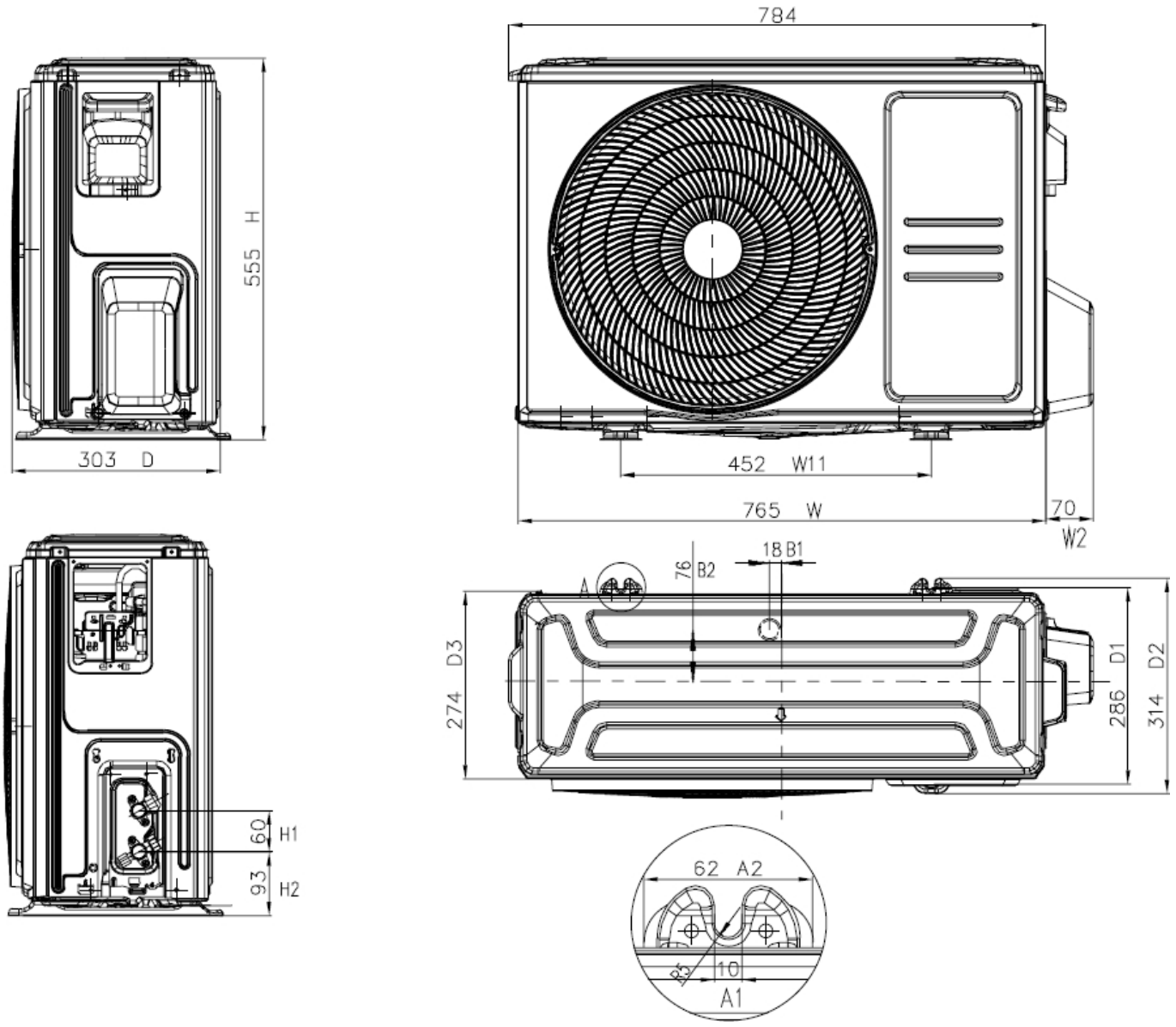
Multiple outdoor units in parallel



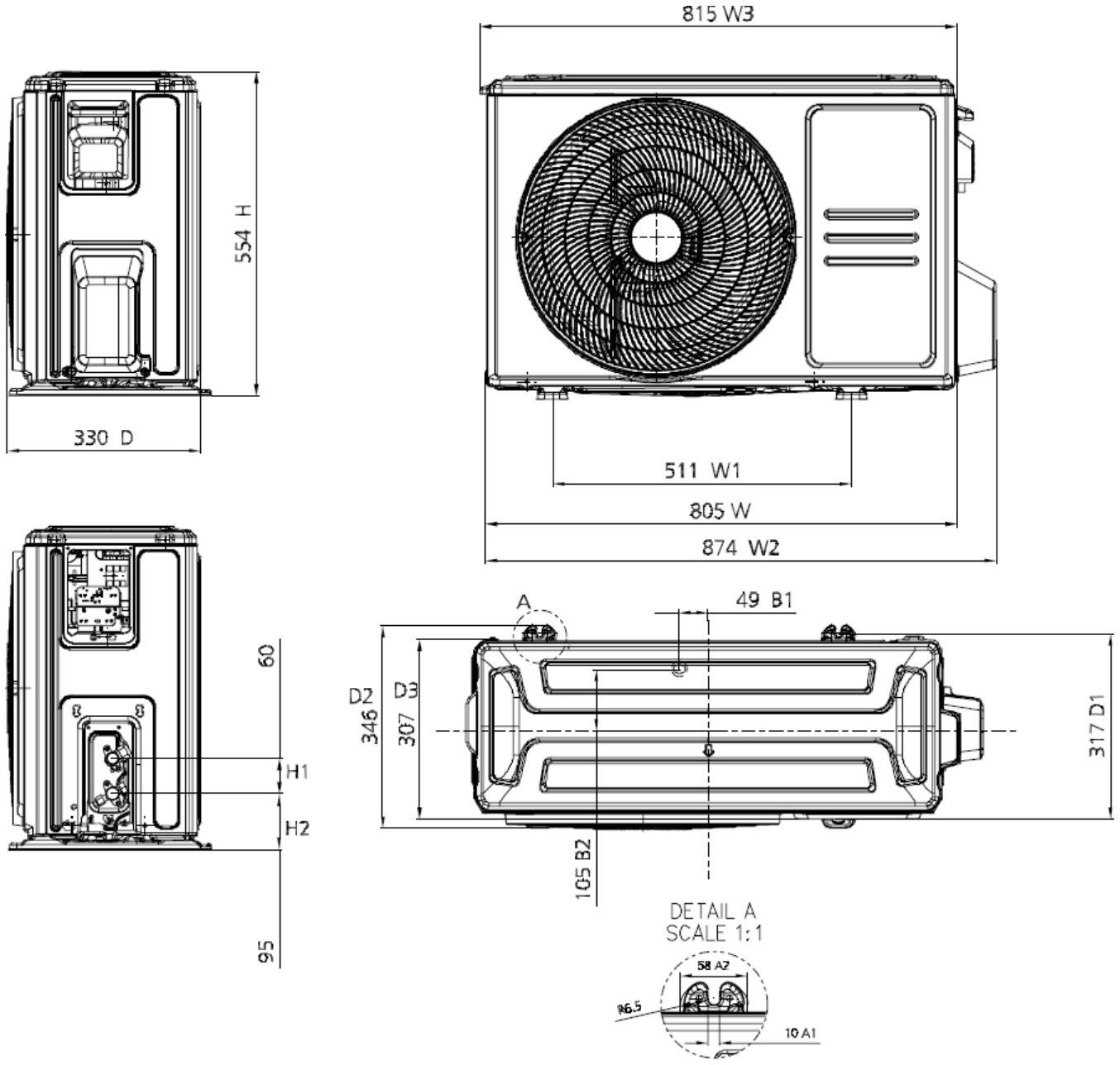




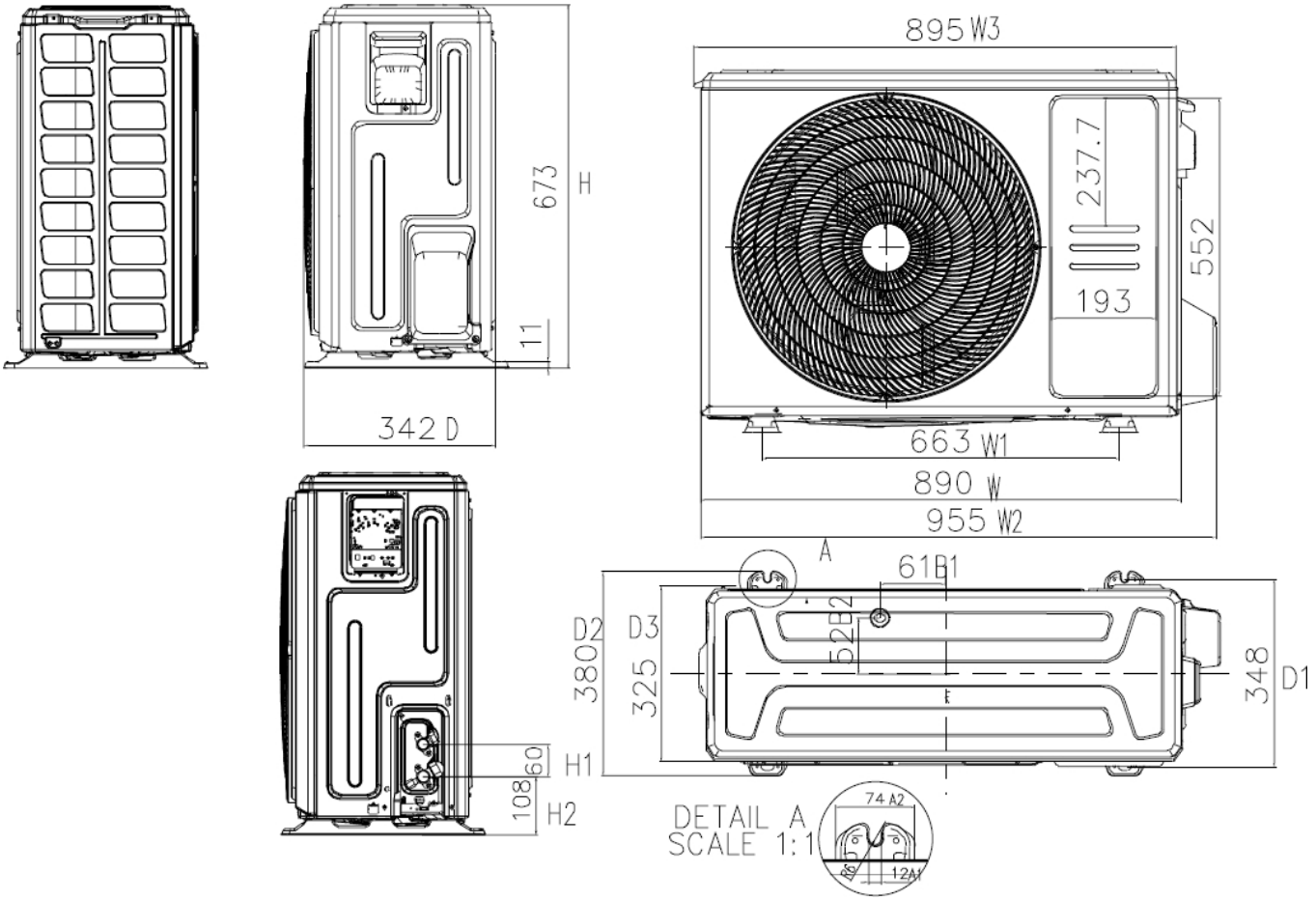
3.1.3 Dimensions YDAX 25 – 35



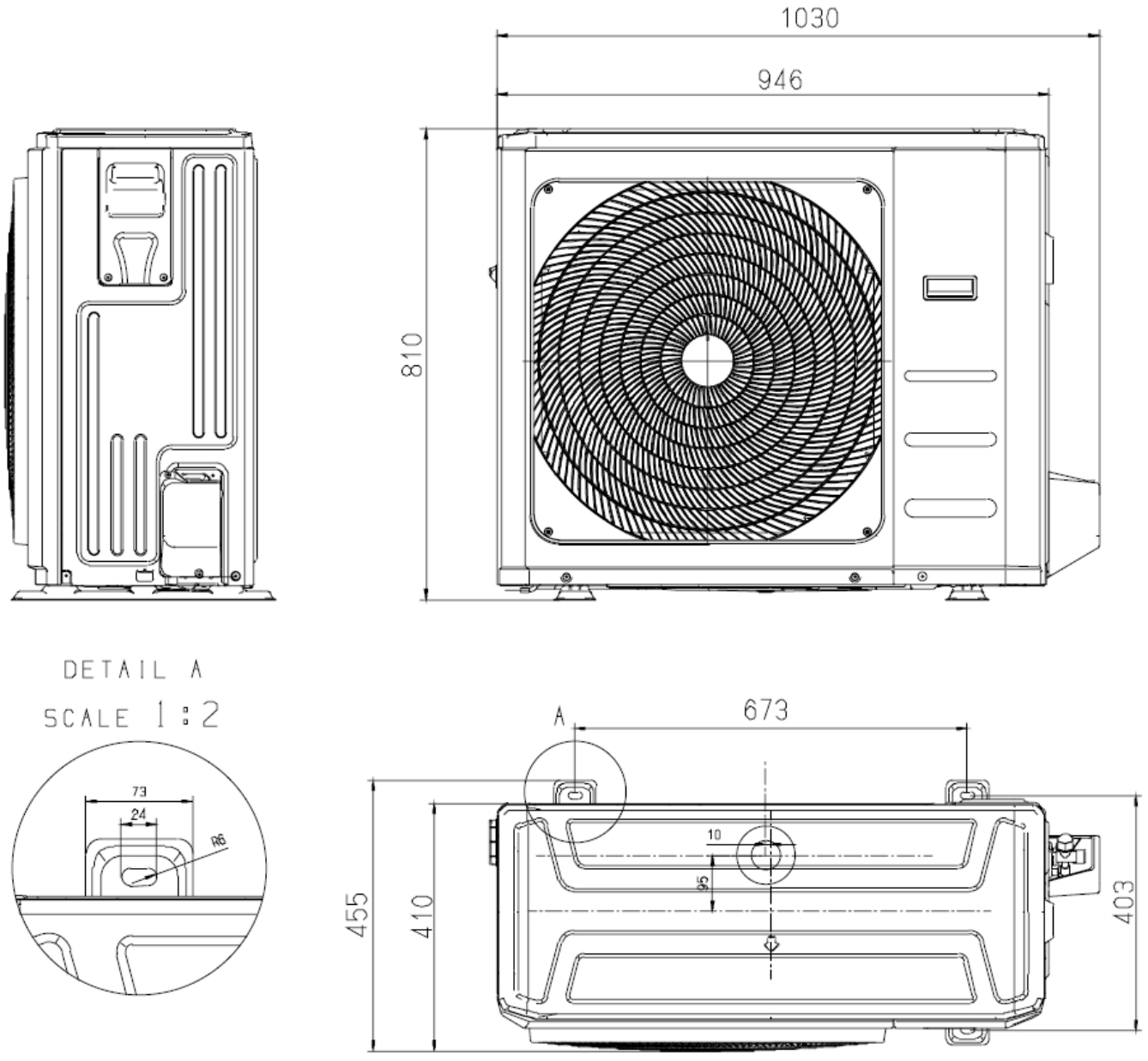
3.1.4 YDAX 50 dimensions



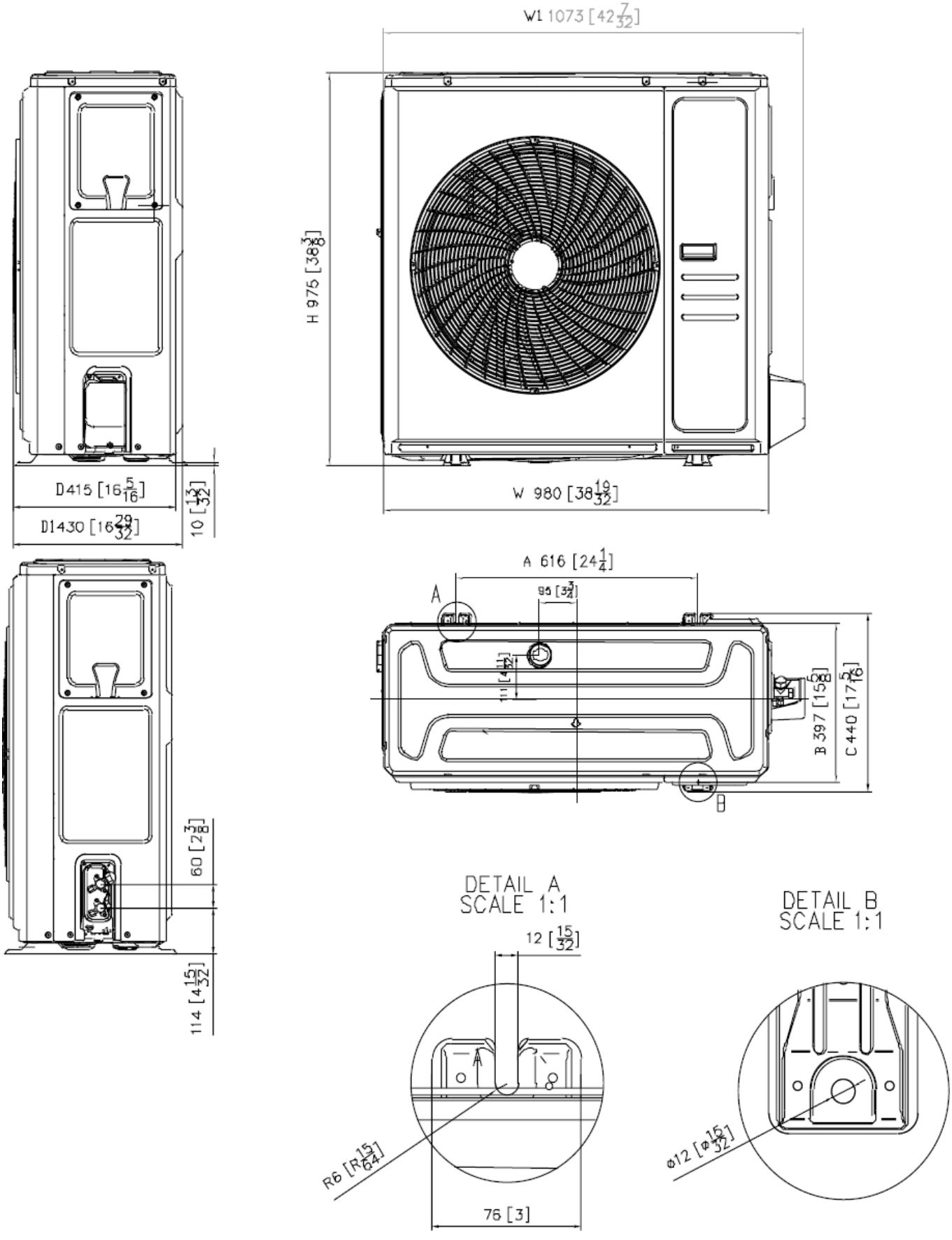
3.1.5 YDAX 70 dimensions



3.1.6 Dimensions YDAX 90 – 100 – 120

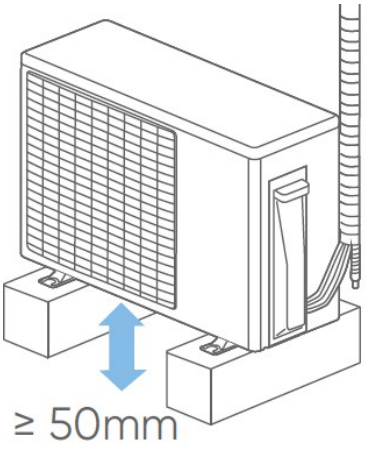


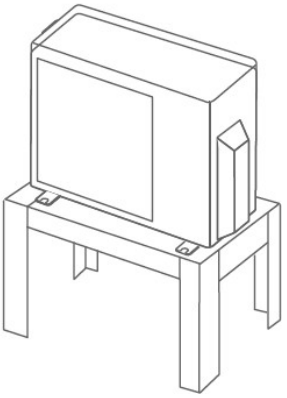
3.1.7 Dimensions YDAX 140 – 175



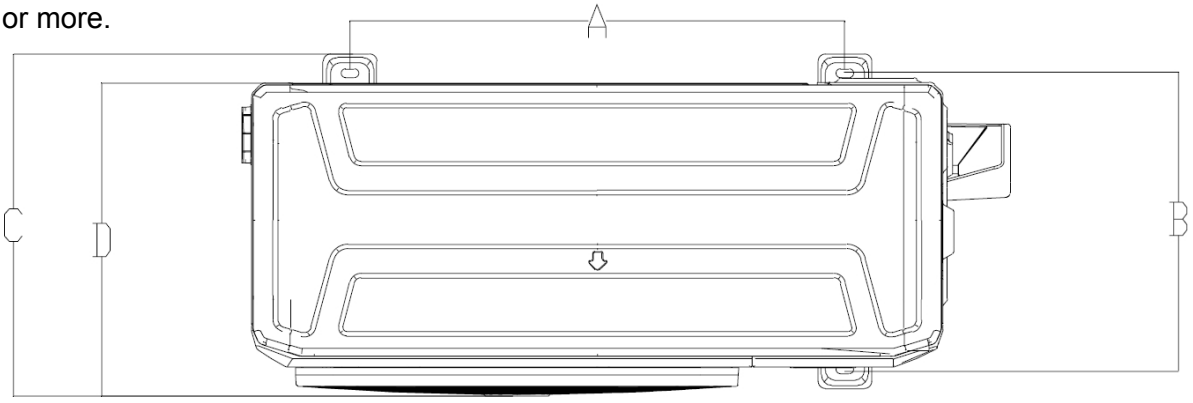
3.1.8 Ground anchoring

- Do not install the outdoor unit directly on the ground, as this may cause malfunction. Condensate water may freeze between the ground and the base of the unit and prevent condensate drainage.
- Heavy snowfall in some areas may block the air inlet and outlet and prevent the production of warm air. Build a shelter and pedestal or install the outdoor unit on raised feet (depending on the environment).



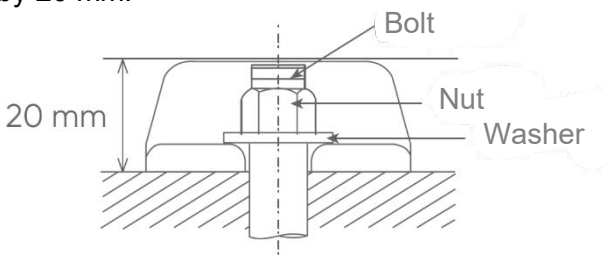


1. Install the unit horizontally (do not tilt it more than 3 degrees). When laying the foundations, ensure that there is sufficient space to install the refrigerant connections.
   foundation is installed, there is sufficient space to install the refrigeration connections.
2. Depending on the installation conditions, vibrations may propagate during operation, causing noise. To reduce vibrations, install the units on a support such as concrete blocks or anti-vibration mounts.
   (Example: anti-vibration mounts – air conditioning accessories).
3. Fasten the 4 anchor bolts at the locations indicated by the arrows in the figure below.
4. The foundations must support the outdoor unit cradles and have a total thickness of 50 mm or more.



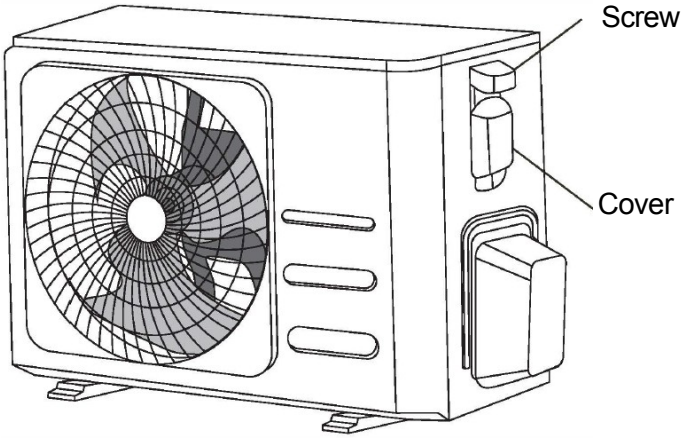
	A (mm)	B (mm)
YDAX 25 - 35	452	286
YDAX 50	511	317
YDAX 70	663	354
YDAX 90 – 100 – 120	673	403
YDAX 140–175	616	397

1. Secure the installation using 4 anchor bolts, washers and nuts (M10).
2. The bolts should protrude by 20 mm.



3.1.9 Removing the covers

1. Remove the self-tapping screws.
2. Slide the cover downwards and then pull it off.



3.2 Indoor unit

The choice of location is particularly important, as subsequent relocation is a delicate operation that must be carried out by qualified personnel.
Decide on the installation location after discussion with the customer.

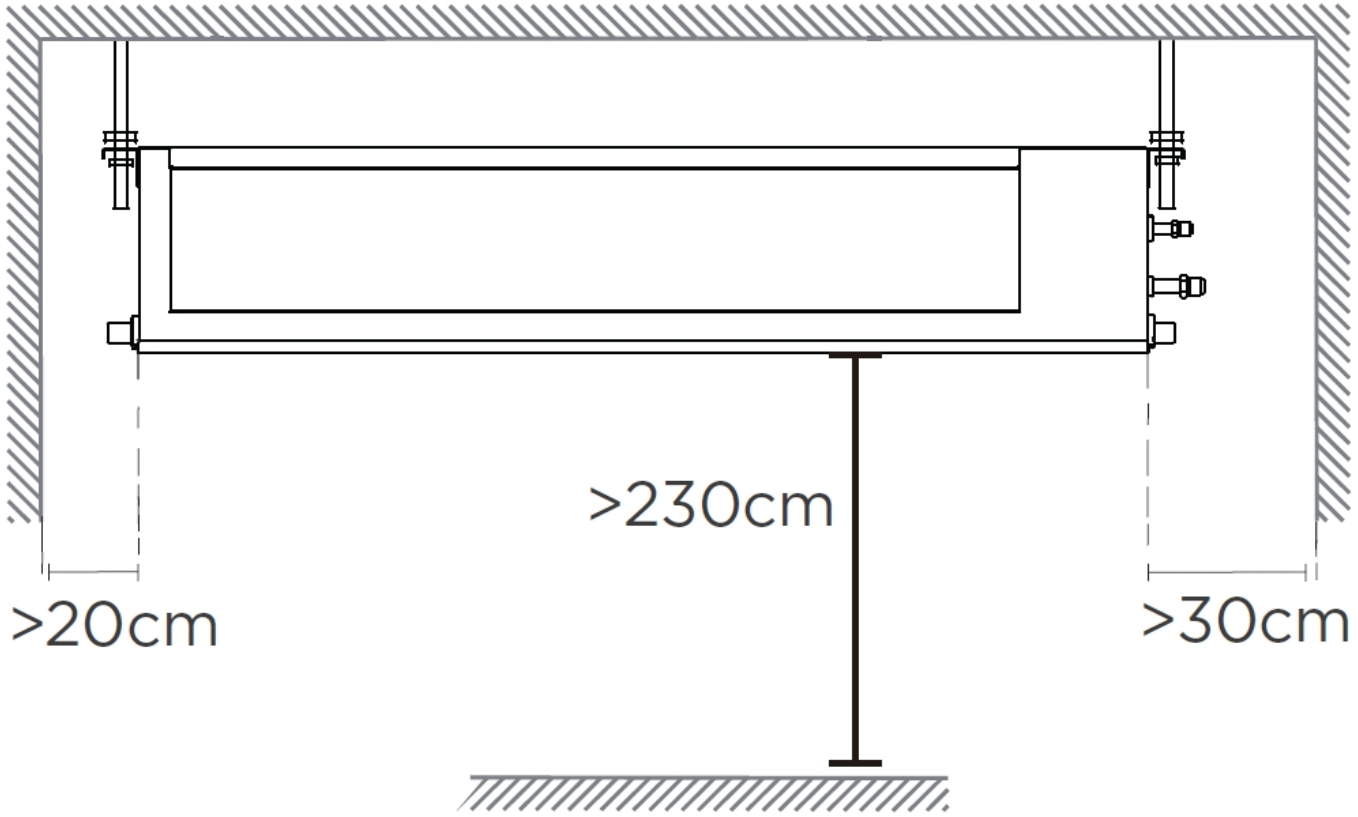
- Consider servicing and maintenance when choosing the location.
- Leave enough space to allow easy access to the air conditioner, especially for removing the filters.
- Ensure that the walls can support the weight of the indoor units to prevent them from falling and causing injury.
- Install the unit in a location that can support its weight and does not transmit vibrations or noise.
- Install the unit so that it can be easily connected to the outdoor unit.
- Install the unit in a location where it will be easy to install the gas and liquid connections and condensate drainage connections.
- The air inlet and outlet must not be obstructed under any circumstances. Air must be blown throughout the room.

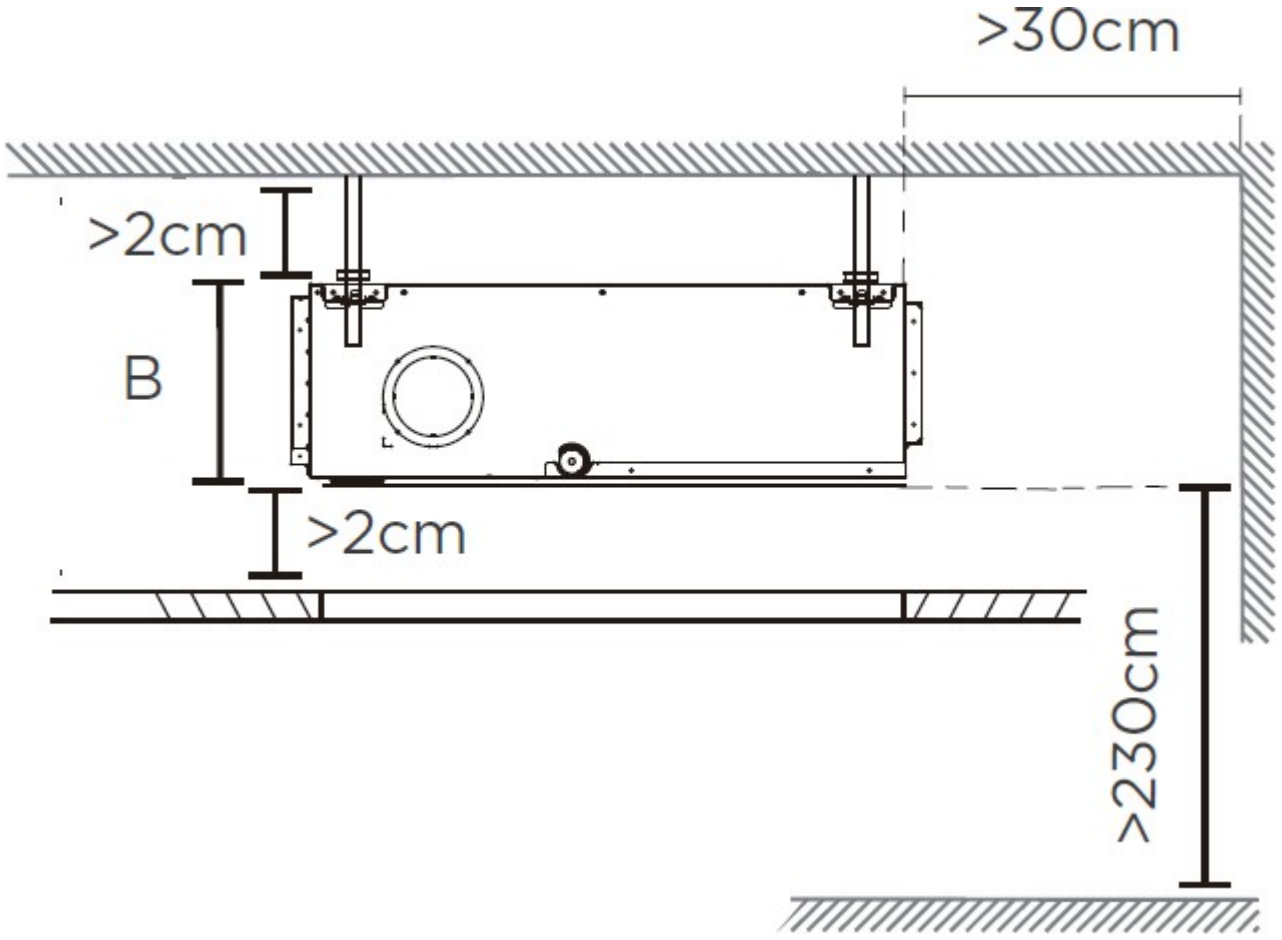
Do not install the indoor unit in the following locations:

- A room containing mineral oil and subject to oil or steam splashes (e.g. a kitchen). This could damage the plastic parts and cause parts to fall off or water to leak from the units.
- A place where substances that compromise the equipment are produced, such as sulphuric gas, chlorine gas, acid, or alkali. This would corrode the copper pipes and joints, causing refrigerant leakage.
- A location with combustible gas leaks, containing carbon fibres or flammable dust in suspension, or volatile flammable particles such as paint thinner or petrol. If the gas leaks and spreads around the unit, it may ignite.
- An area where ammonia is produced.
- Near a source of heat, steam or flammable gas.
- In an area where there is a risk of dangerous gas leaks.
- Do not use the unit for special purposes, such as food storage, plants, etc. plants, etc.
- If children under the age of 10 can approach the units, take all necessary measures to ensure that they cannot touch them.
- Directly exposed to sunlight.
- The unit must be installed by a sufficient number of people with equipment suitable for the weight of the unit. An insufficient number of people or inadequate tools may cause the unit to fall or result in personal injury.

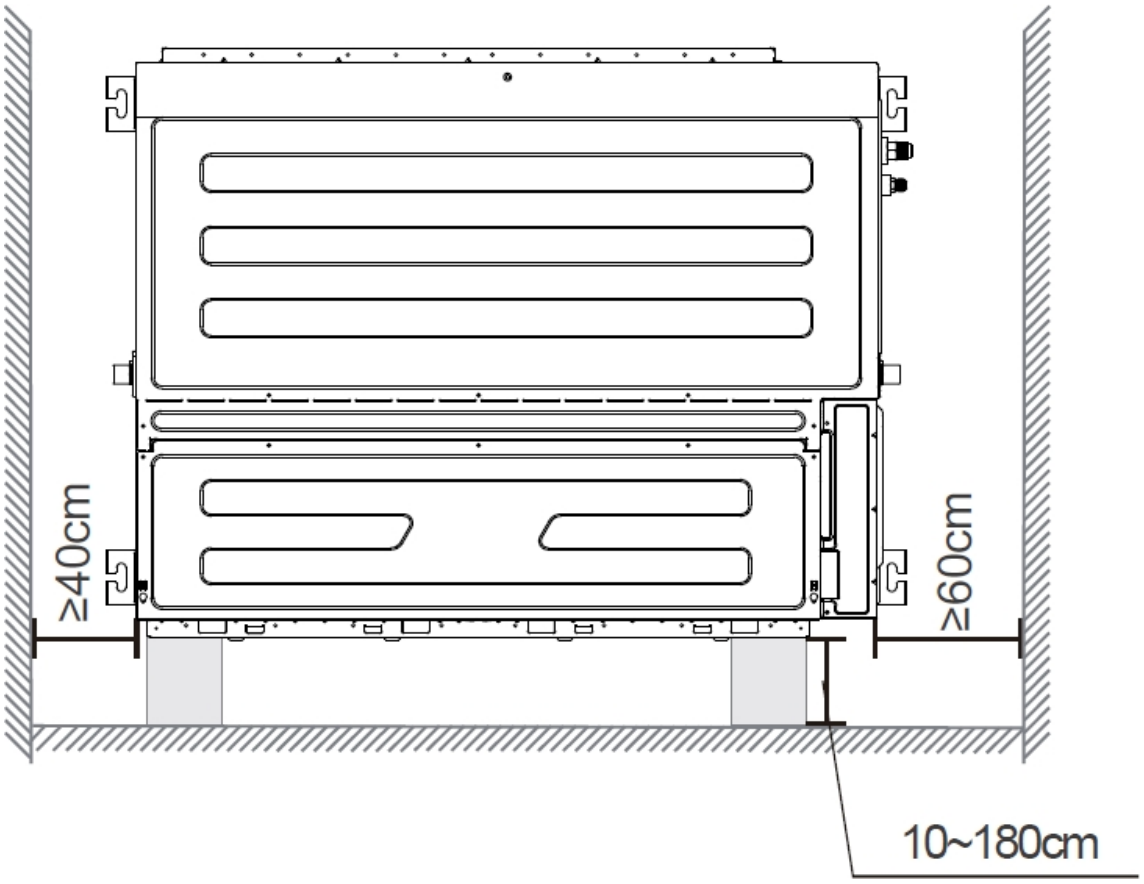
- If the unit is secured only by the front panel, there is a risk that the unit may become detached.
- Confirm the air intake and air outlet directions before installing the unit.

3.2.1 Horizontal installation

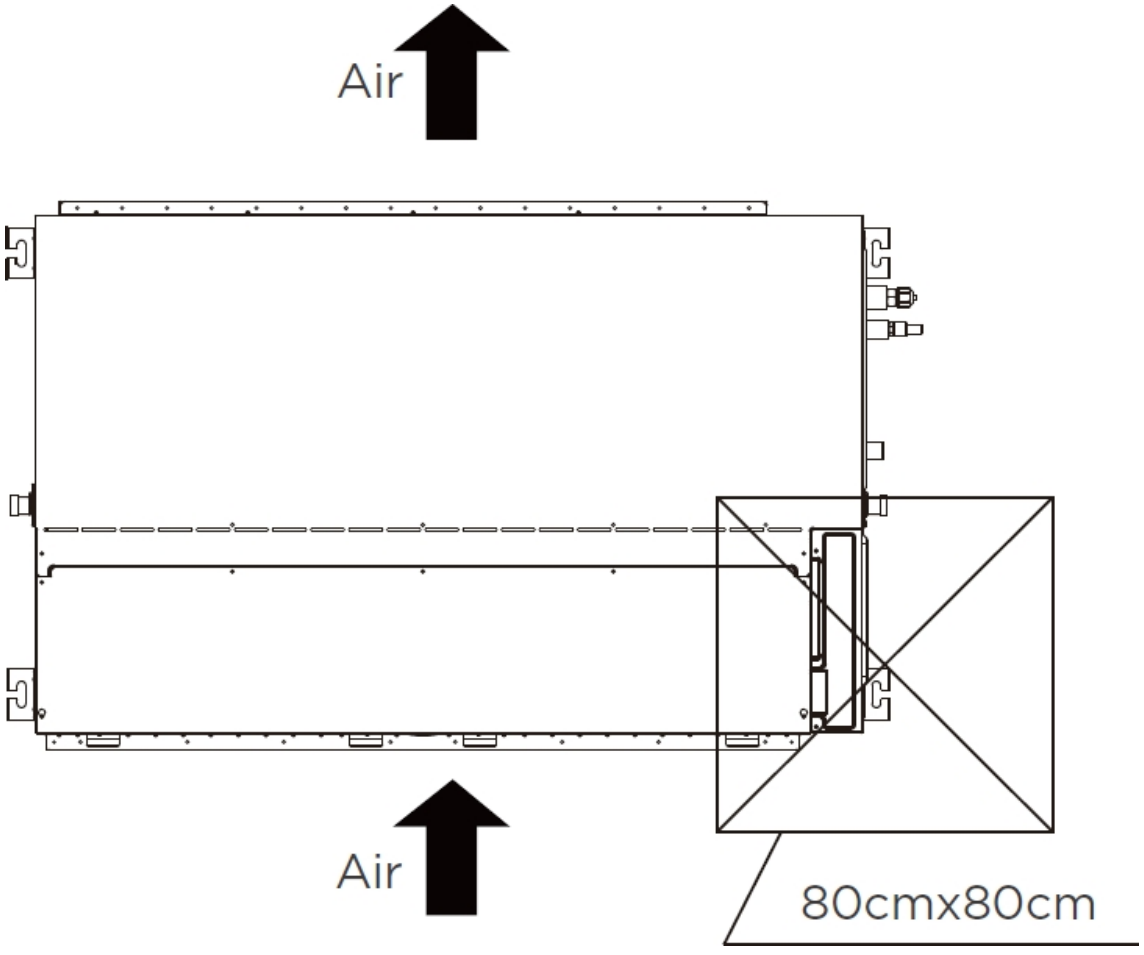




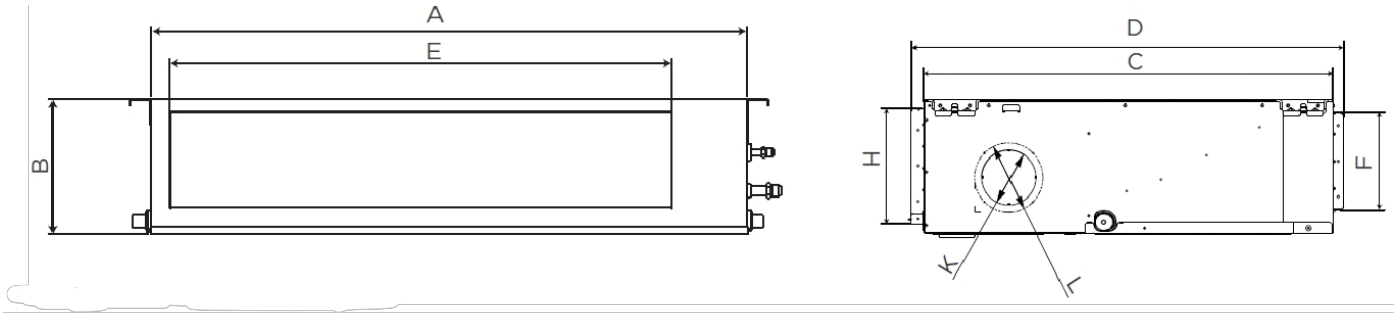
3.2.2 Vertical installation

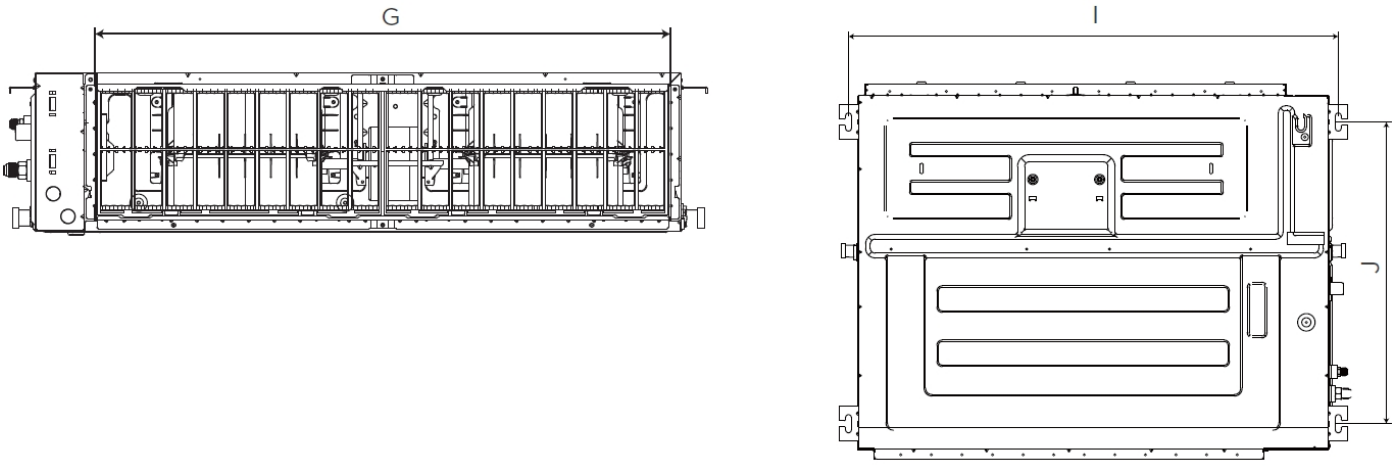


3.2.3 Service space



3.2.4 Dimensions and mounting positions





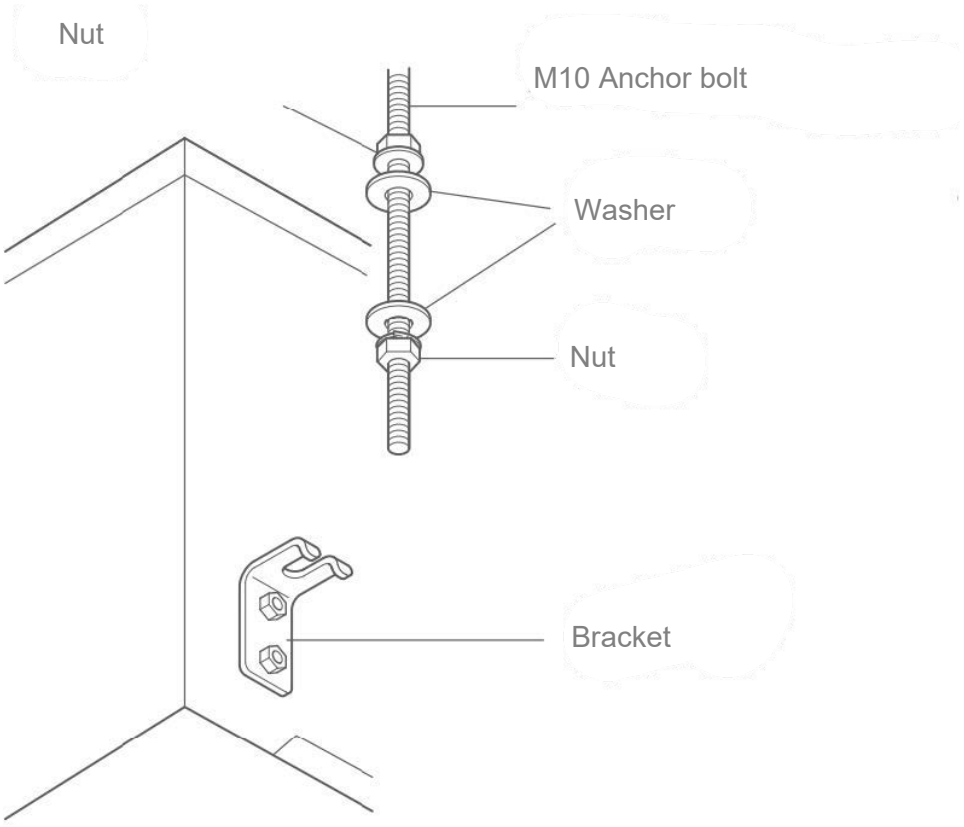
	Dimensions				Blowing		Recovery		Fixings	
	A	B	C	D	E	F	G	H	I	J
DDMD 25-35	700	200	506	450	537	152	599	186	741	360
DDMD 50	700	245	750	795	527	178	592	212	740	640
DDMD 70-90	1000	245	750	795	827	178	892	212	1,040	640
DDMD 100-120-140	1200	245	750	795	1027	178	1092	212	1,240	640
DDMD 175	1200	300	750	795	1027	233	1092	267	1,240	640

4 INSTALLATION

- You can use the EPS top cover to drill holes, position threaded rods and the location of the false ceiling.
- Prepare the refrigeration connections, the condensate drain pipe, and the electrical cables.
- Install the air conditioner on a support that is strong enough to suspend it.
- Confirm the air intake and air outlet directions before installing the unit.

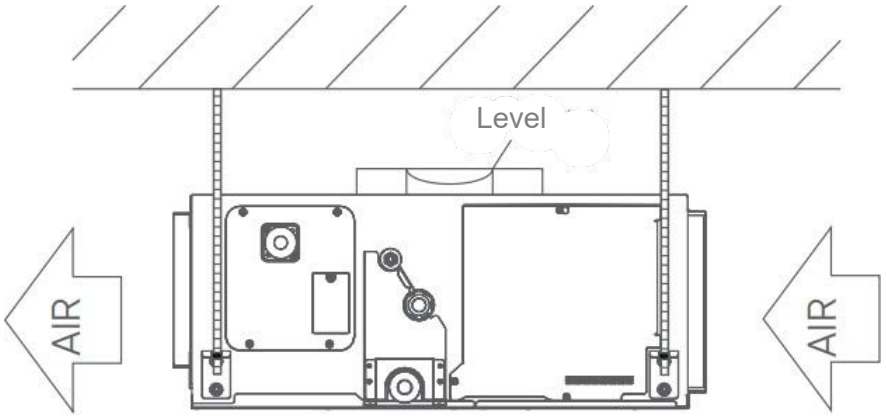
4.1 Fixing the indoor unit body

1. Screw the nuts onto the ends of the threaded rods.
2. Hook the indoor unit body onto the threaded rods (between the nuts) using the mounting brackets.
3. Screw the nut to adjust the height of the unit.
4. Adjust the dimensions between the ceiling and the indoor unit body.
5. Tighten the nuts after adjusting the unit.
6.

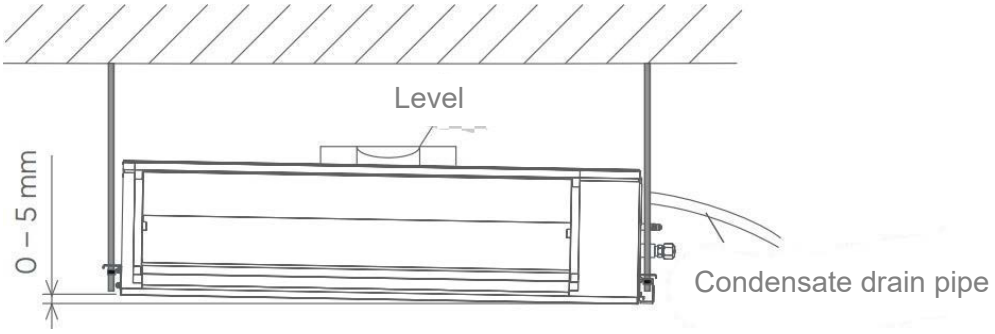


4.2 Levelling

Use a spirit level to precisely adjust the indoor unit body. An upward tilt of the condensate drain may cause malfunction and lead to water leakage.

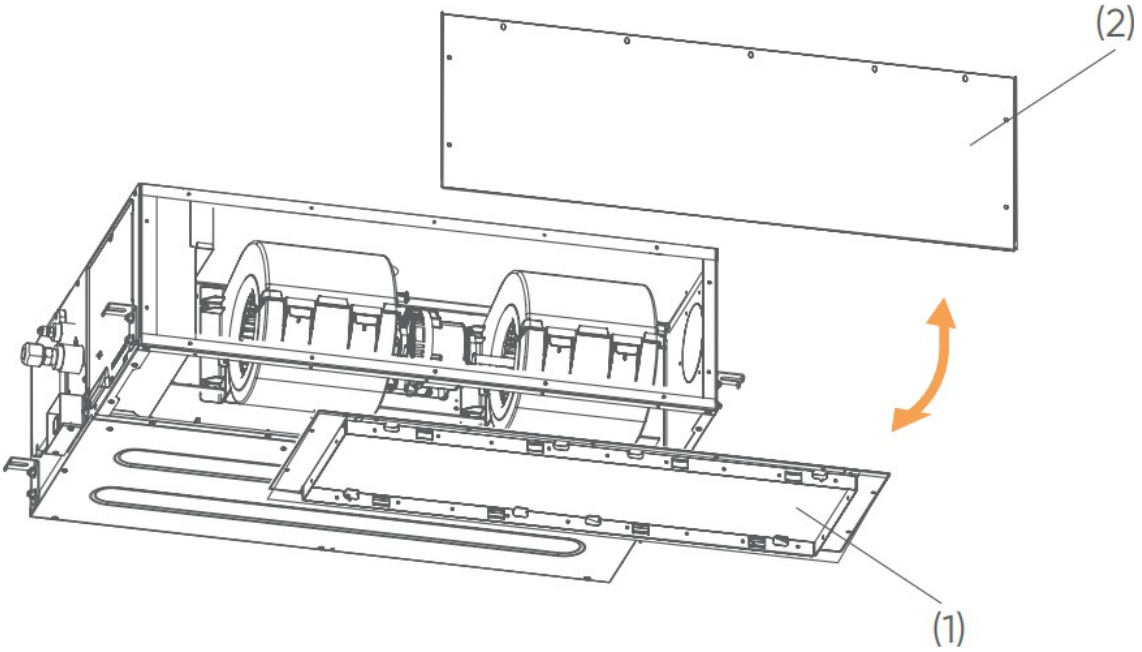


Horizontally, on top of the unit, creating a slight slope of between 0 and 5 mm on the side of the condensate drain

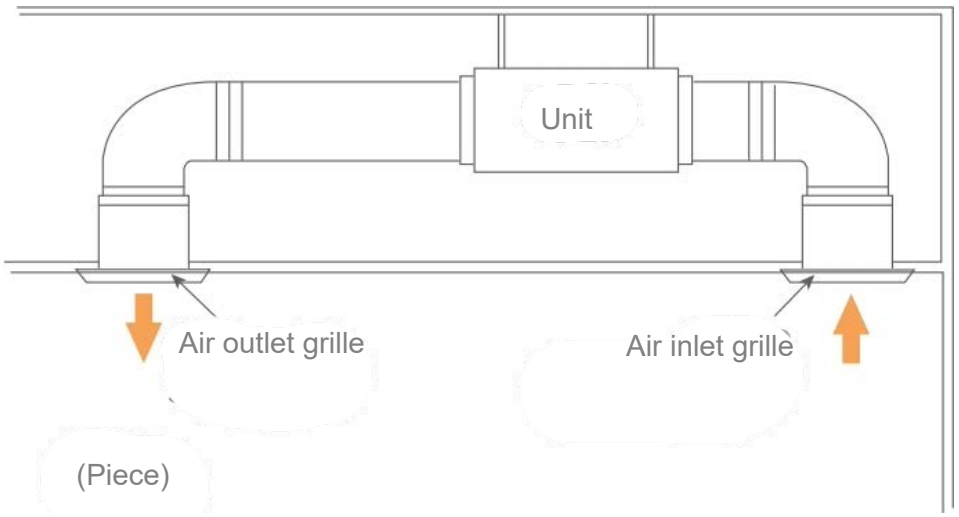


4.3 Air intake position

The air intake is factory-installed at the rear of the unit. To allow air intake under the unit, follow instructions 1→2.



- When air intake is from underneath the indoor unit, the noise generated by the unit's operation will be more noticeable than that produced by an installation at the rear of the unit.
- When installing the return duct, take care not to damage the sensor. temperature (located on the return flange).
- Ensure that the grilles are correctly positioned at the start of the return and supply ducts to ensure the correct temperature and good air circulation.
- The grilles are fixed in such a way that they cannot be accessed manually and can only be removed using appropriate tools.

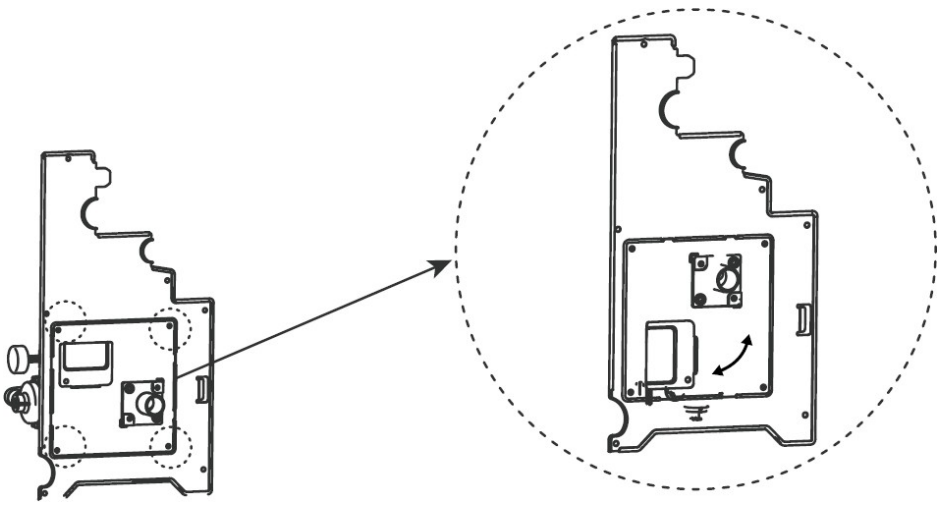


- Ensure that the air filter is correctly installed on the return duct. Otherwise, the exchanger may not function properly and the performance of the unit will be reduced.
- Always install a filter on the return vent.

4.4 Position of the condensate pump

The DDMD 50 to 175 have an integrated condensate pump. This is factory-set for horizontal installation. If the duct is installed vertically, the position of the condensate pump must be changed.
Follow the instructions below:

1. Open the electrical box. Disconnect the terminals from the pump and water level sensor.
2. Remove the panel containing the pump.
3. Remove the pump unit by unscrewing the four screws.

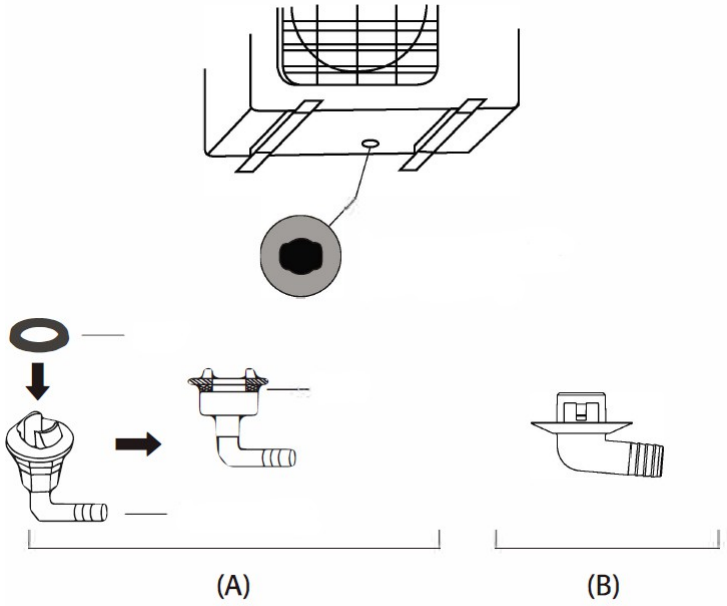


4. Rotate the pump "block" 90° and screw it back in.
5. Reconnect the terminals and then refit the panels.

5 CONDENSATE DRAINAGE

5.1 Outdoor unit

- On reversible units, condensation water drains during heating mode operation. Connect the condensate drain to a 16 mm diameter PVC pipe, taking all necessary precautions to prevent the drain from freezing.
- Install the condensate drain according to the instructions and ensure that it drains properly. If the installation is not carried out correctly, water may drip down from the unit.
- In cold regions, do not use the cap and condensate drain pipe. Using the cap and drain pipe in cold weather (outside temperature below or equal to 0°C) may cause the condensate to freeze at the end of the pipes (reversible model only). In addition, the holes in the base of the outdoor unit must never be blocked. It may be necessary to install an anti-freeze heater for the drain.
- When the condensate outlet is connected, plug the unused holes at the base of the outdoor unit with the rubber plugs and seal with sealant to prevent any risk of leakage.

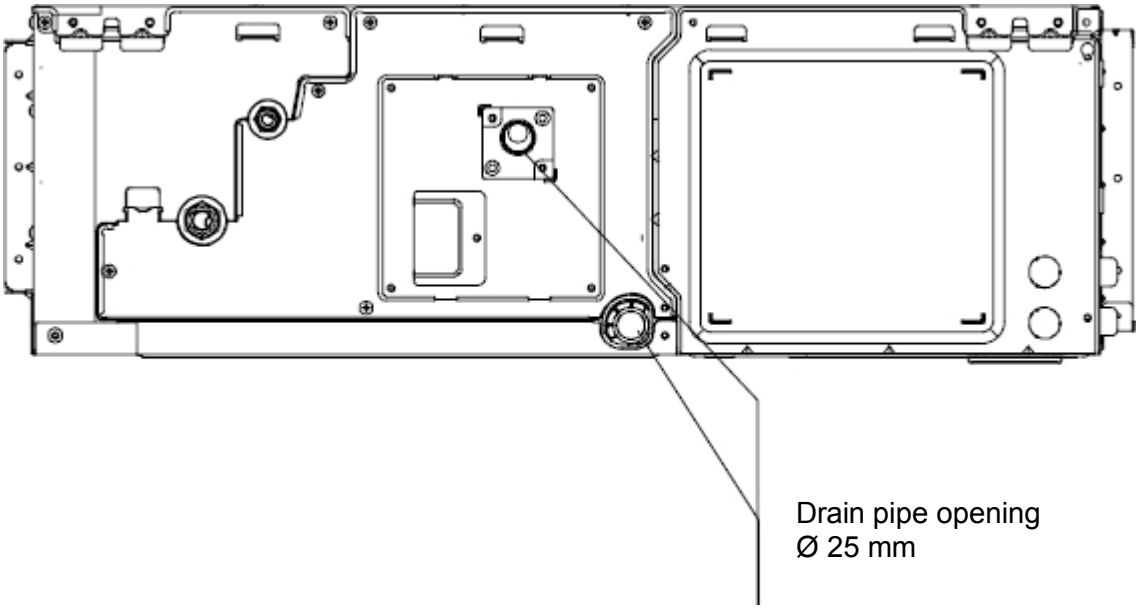


5.2 Indoor unit

- Take the necessary precautions to prevent condensate water from freezing at low temperatures. A drain pipe blocked by frozen water can cause water leakage from the indoor unit.
- Ensure that the environment is sufficiently warm when installing the condensate drain pipe to prevent condensation problems causing water leaks.
- Install the condensate drain pipe with a slope of 1/50 to 1/100 without any rises or siphons.
- Provide hangers when the pipes are long.
- Ensure that there are no air leaks.
- Do not connect the condensate drain pipe to the sewer system, as sulphur dioxide may escape due to wear on the exchanger.
- Insulate the connections properly to prevent water leaks.
- Use rigid PVC pipe for drainage (VP25, external diameter 32 mm).
  Secure with PVC glue at the outlet of the appliance.

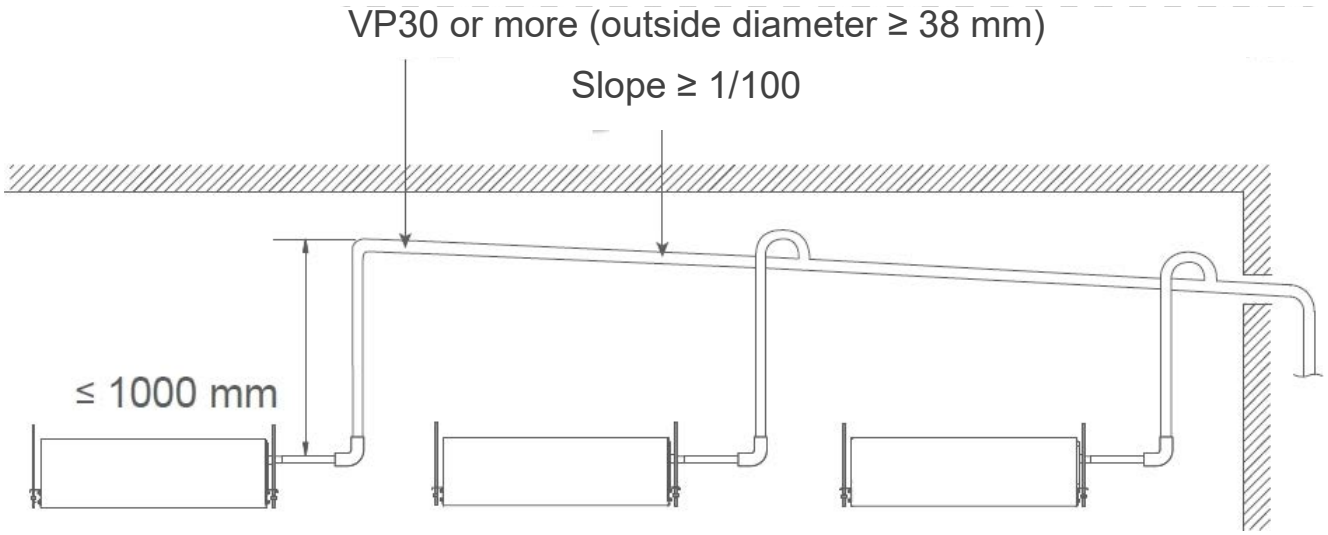
- Do not apply adhesive to the condensate outlet (use the pipe provided and connect it to the condensate drain outlet).
- Insulate the pipe inside the premises by wrapping it in an insulating sleeve insulating sleeve to prevent condensation.

- To check that the condensate drain is working properly after installation, use pieces of transparent pipe at the outlets and at the end of the pipe coming out of the indoor unit.



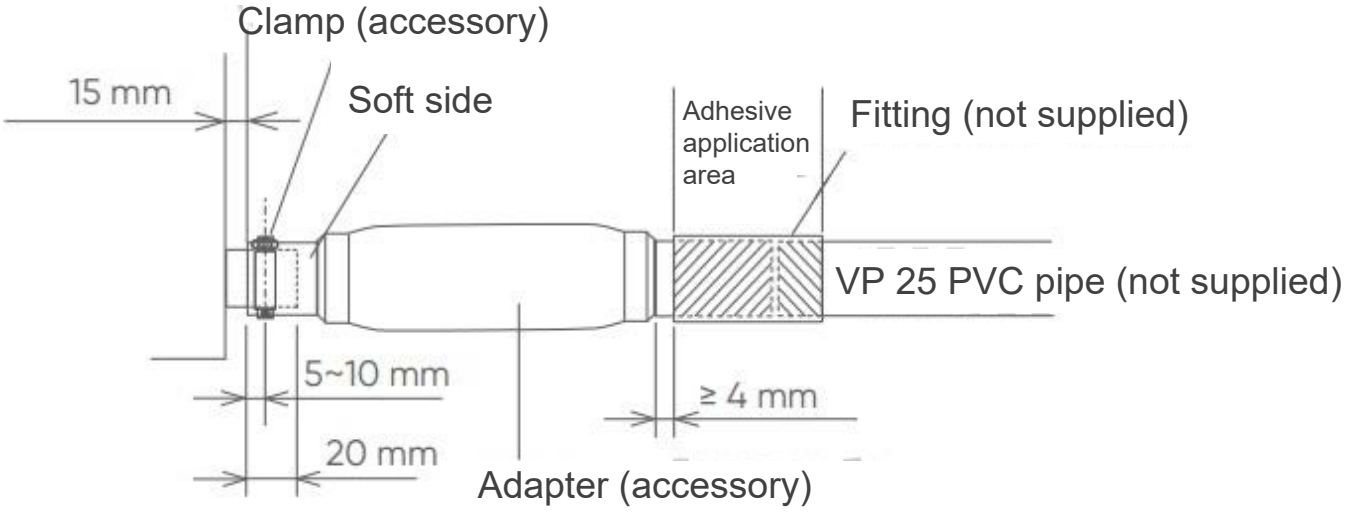
5.2.1 Condensate drain pipe riser

- If the drain pipe needs to be raised, do so within 300 mm of the appliance outlet and no more than 1000 mm from the false ceiling. Exceeding these dimensions could result in leaks.
- If the entire pipe is installed 100 mm lower than the condensate drain outlet, use VP30 or higher PVC pipe with a minimum slope of 1/100.



5.2.2 Installation procedure

1. Attach the adapter to the unit's drain outlet and screw on the hose clamp.
2. Insert the pipe into the drain outlet.
3. Tighten the clamp.
4. Use vinyl adhesive tape to attach the condensate drain pipe (VP25 PVC pipe) to the condensate drain adapter.
5. Wrap the condensate drain adapter with insulation (accessory).



5.3 REFRIGERATION CONNECTIONS

Use only tubing specifically designed for refrigeration applications with the following characteristics:

- Annealed copper with high copper content (minimum 99%),
- Internally polished,
- Dehydrated,
- Corked
- Pressure resistance: minimum 50 bar
- Minimum tube thickness 0.8 mm
- Maximum tube thickness 1.0 mm

Refrigeration connections of this type are available as AIRWELL accessories.

	Liquid pipe diameter	Gas pipe diameter
YDAX-025H-09M25	1/4" – 6.35 mm	3/8'' – 9.52 mm
YDAX-035H-09M25	1/4" – 6.35 mm	3/8'' – 9.52 mm
YDAX-050H-09M25	1/4" – 6.35 mm	1/2" – 12.70 mm
YDAX-070H-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
YDAX-090H-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
YDAX-100H-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-100H-09T35	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-120R-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-140R-09T35	3/8" – 9.52 mm	5/8'' – 15.87 mm
YDAX-175R-09T35	3/8" – 9.52 mm	5/8'' – 15.87 mm

	Liquid tube diameter	Gas tube diameter
DDMD-025N-09M25	1/4" – 6.35 mm	3/8" – 9.52 mm
DDMD-035N-09M25	1/4" – 6.35 mm	3/8" – 9.52 mm
DDMD-050N-09M25	1/4" – 6.35 mm	1/2" – 12.70 mm
DDMD-070N-09M25	3/8" – 9.52 mm	5/8" – 15.87 mm
DDMD-090N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
DDMD-100N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
DDMD-120N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
DDMD-140N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm
DDMD-175N-09M25	3/8" – 9.52 mm	5/8'' – 15.87 mm

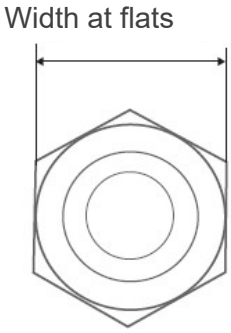
	Preload (m)	Minimum/maximum length (m)	Max height difference (m)
YDAX-025H-09M25	5	5 / 25	10
YDAX-035H-09M25		5 / 25	10
YDAX-050H-09M25		5 / 30	20
YDAX-070H-09M25		5 / 50	25
YDAX-090H-09M25		5 / 50	25
YDAX-100H-09M25		5 / 75	30
YDAX-100H-09T35		5 / 75	30
YDAX-120R-09M25		5 / 75	30
YDAX-140R-09T35		5 / 75	30
YDAX-175R-09T35		5 / 75	30

5.3.1 Forming

- Connections must be shaped exclusively using a bending machine or spring to avoid any risk of crushing or breaking.
- Bend the tubes with a minimum bend radius of 70 mm.
- Do not bend copper at an angle greater than 90°.
- Do not bend the connection more than three times in the same place (risk of cracks forming, metal work hardening).
- Remove the insulation from the connections so that they can be bent correctly using the bender. After bending, reseal the insulation with neoprene adhesive and secure with adhesive tape.

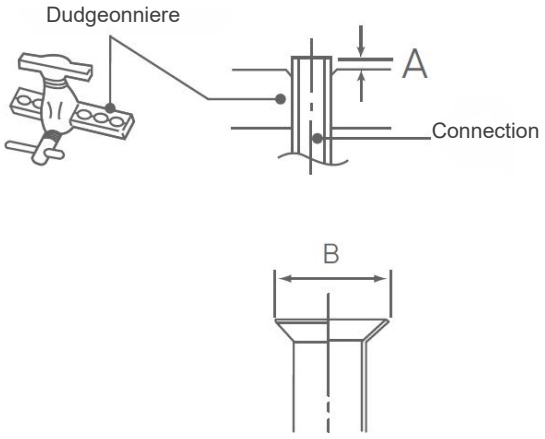
5.3.2 Flare connection

1. Cut the connections to the correct length using a pipe cutter. Take care not to deform the connections.
2. Carefully deburr, holding the pipe downwards to prevent the introduction of filings.
3. Retrieve the flare nuts from the indoor unit and outdoor unit.



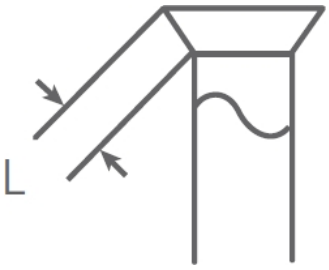
Refrigeration connection diameters	Flare nut width
1/4" (6.35 mm)	17 mm
3/8" (9.52 mm)	22
1/2" (12.70 mm)	26
5/8" (15.88 mm)	29
3/4" (19.05 mm)	36 mm

4. Thread the nuts onto the tubes before flaring.
5. Proceed with flaring. Allow the tube to protrude from side "A" of the die.



Refrigeration connection diameters	Dimension A	Dimension B
1/4" (6.35 mm)	0 to 0.5 mm	9.1 mm
3/8" (9.52 mm)		13.2 mm
1/2" (12.70 mm)		16.6 mm
5/8" (15.88 mm)		19.7 mm
3/4" (19.05 mm)		24.0 mm

6. After flaring, check the condition of the bearing surface. It must not show any scratches or signs of breakage Also check that the "L" dimension is correctly flared, without cracks or scratches.



Check before connecting

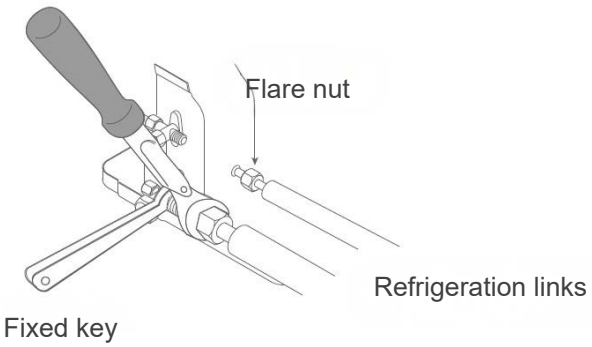
- The refrigeration circuit is very sensitive to dust and moisture. Check that the area around the connection is dry and clean before removing the caps that protect the refrigeration connections.

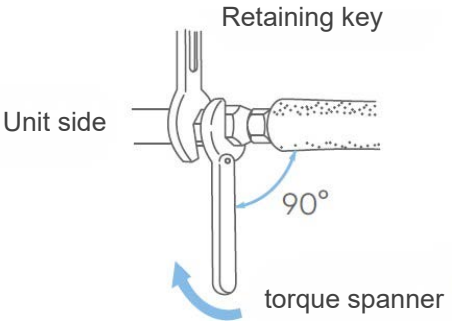
Connection

- Only remove the caps from the pipes and valves when you are ready to make the connection.
- The small connection must always be connected before the large one.
- Take particular care when positioning the pipe in relation to its connector. If the pipe is misaligned, it will be impossible to tighten it by hand and the thread may be damaged.
- Use two spanners to tighten the flare nuts so that they are screwed into the tube axis.
- Do not apply pressure to the blind plug, as this may cause a leak.
- Tighten the flare nuts with a torque wrench using the specified method.
- Otherwise, the flare nut could break after prolonged use, causing a refrigerant leak which, if exposed to a flame, would produce a toxic gas.
- Do not use blue paste or sealant on refrigeration connections as it will clog them. Doing so will void the appliance warranty.
- A flare joint made inside the building must not be reused. The flared connection on the pipe must be removed and a new flared connection must be made.
- After connection, ensure that the pipes do not touch the compressor or the external panel.
- The operation of the installation cannot be guaranteed if the combinations of size, length, thickness of the connections and connections to the valves mentioned in this manual are not respected.
- Ensure that the connection is made to both the indoor unit and the outdoor unit.
- To avoid deforming the external panel, position the main components with a spanner and tighten with a torque spanner.

7. Remove the caps from the refrigerant connections.
8. After correctly positioning the fittings face to face, tighten the nuts by hand until they make contact and finish tightening with a torque wrench according to the torques indicated below.

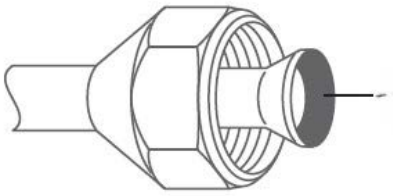
Torque spanner





Refrigeration connection diameters	Tightening torque
1/4" (6.35 mm)	16 to 18 N.m
3/8" (9.52 mm)	32 to 42 N.m
1/2" (12.70 mm)	49 to 61 N.m
5/8" (15.88 mm)	63 to 75 N.m
3/4" (19.05 mm)	90 to 110 N.m

9. For better sealing, perform a double tightening (tighten once to the torque, then loosen and retighten to the torque). To avoid the risk of gas leaks and ensure easy tightening, lubricate the contact surfaces and threads with POE refrigeration oil (suitable for R32). Do not use mineral oil.



10. After connection, ensure that the connections are not in contact with the compressor or the service panel.

5.3.3 Insulation

- Use insulation on refrigeration connections to prevent condensation and dripping. Determine the thickness of the insulation by referring to the table below.
- If the insulation is inadequate, condensation will form on the surface of the sleeves.
- The sleeves shall have a thermal resistance corresponding to a conductivity of 0.045 W (m.K) or less (at 20°C).

		Minimum insulation thickness (mm)			
		Humidity > 70%	Humidity > 75%	Humidity > 80%	Humidity > 85%
Connection diameters	1/4" (6.35 mm)	8	10	13	17
	3/8" (9.52 mm)	9	11	14	18
	1/2" (12.70 mm)	10	12	15	19
	5/8" (15.88 mm)	10	12	16	20
	3/4" (19.05 mm)	10	13	16	21

If the ambient temperature and relative humidity exceed 32°C, increase the thickness of the insulation.

6 ELECTRICAL CONNECTION

- The power supply will be provided in accordance with current standards, in particular NF C 15-100.
- The cable used will be type H07RNF. A 30 mA residual current device will be provided provided.
- Do not use a power socket for the power supply.
- This device is designed to operate at a nominal voltage of 230 Volts 50Hz.

6.1 Electrical dimensions

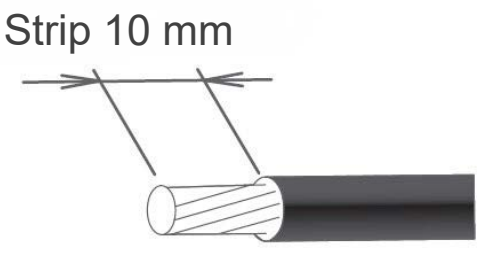
The cable cross-sections are given for information purposes only. It is the responsibility of the installer, who is in all cases
the "skilled person", to check that they meet the requirements and standards in force.

	Power cable	Circuit breaker rating
YDAX-025H-09M25	3G1.5 mm²	16 A
YDAX-035H-09M25	3G1.5 mm²	16 A
YDAX-050H-09M25	3G1.5 mm²	16 A
YDAX-070H-09M25	3G2.5 mm²	20 A
YDAX-090H-09M25	3G4 mm²	25 A
YDAX-100H-09M25	3G4 mm²	25 A
YDAX-100H-09T35	5G2.5 mm²	16 A
YDAX-120R-09M25	3G4 mm²	25 A
YDAX-140R-09T35	5G2.5 mm²	16 A
YDAX-175R-09T35	5G2.5 mm²	16 A

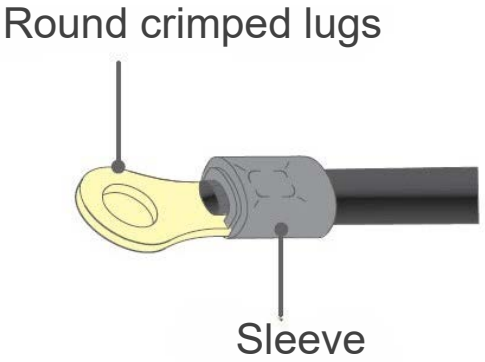
	Interconnect cable
DDMD-025N-09M25	4G1.5 mm²
DDMD-035N-09M25	
DDMD-050N-09M25	
DDMD-070N-09M25	
DDMD-090N-09M25	
DDMD-100N-09M25	
DDMD-120N-09M25	
DDMD-140N-09M25	
DDMD-175N-09M25	

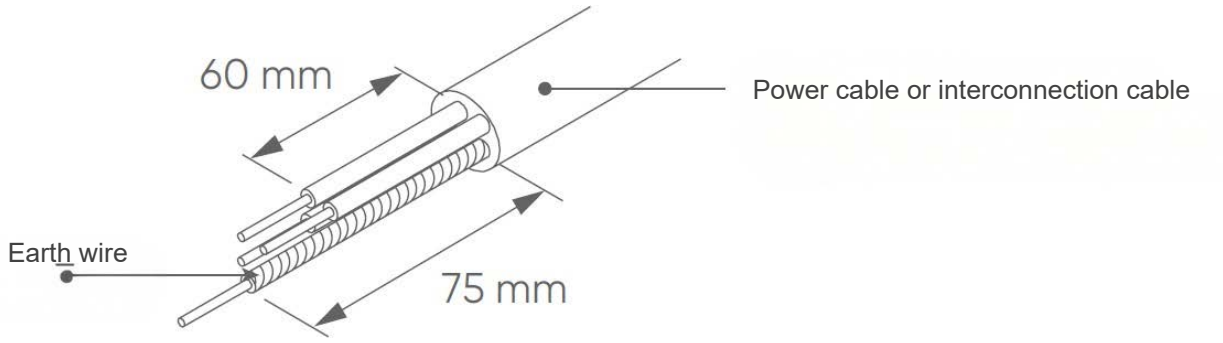
6.1.1 Cable preparation

1. Strip the ends of the cables to a length of approximately 10 mm.

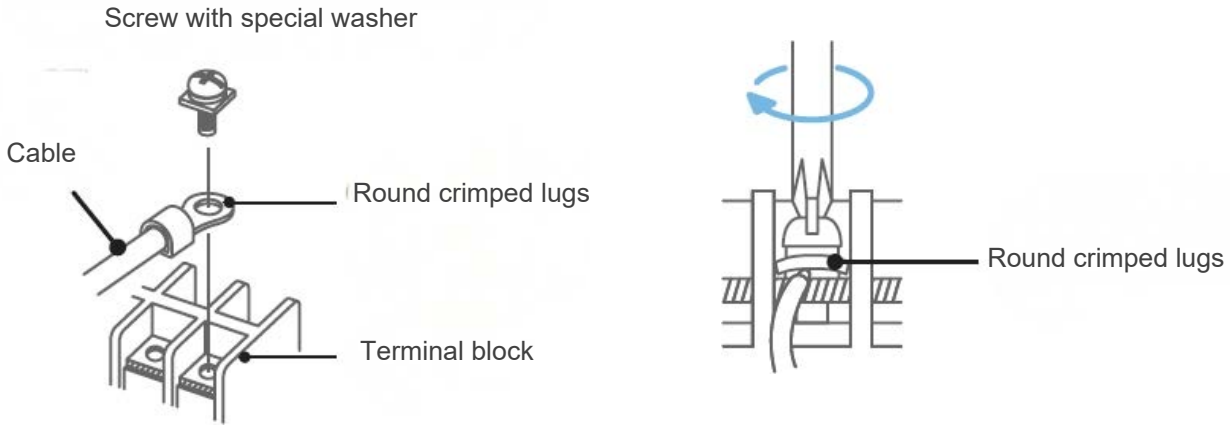


2. Using crimping pliers, attach a round crimp terminal to the end of the wire a round crimp terminal with a diameter corresponding to the terminal block screws.





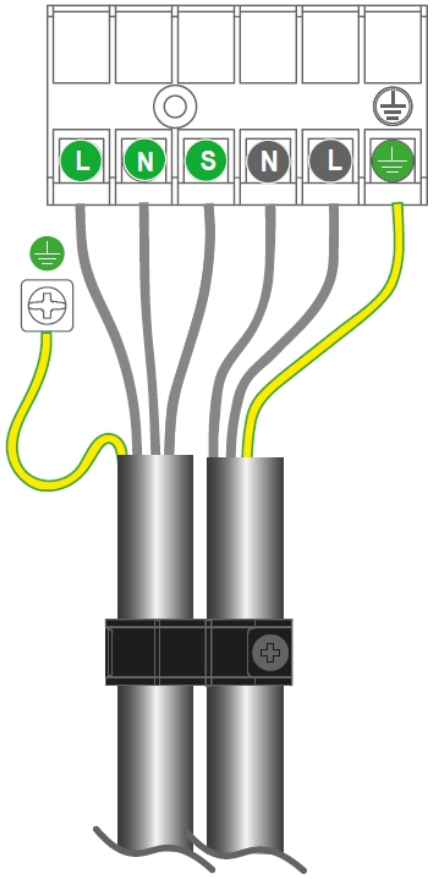
- Do not tighten the terminal too firmly on the terminal block so as not to damage or break the screw.
- The use of flexible wires without crimped round terminals is strongly discouraged.
- Observe the tightening torques indicated in the table below.
- Do not attach two cables to the same terminal with a single screw.



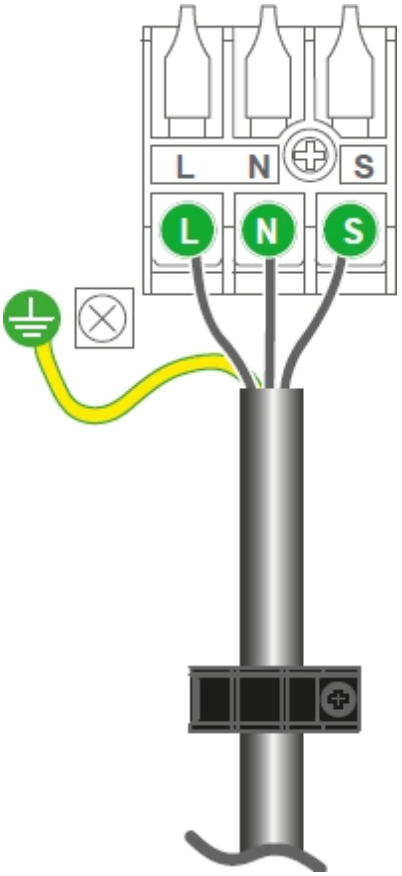
Tightening torque	
M4 screw	1.2 to 1.8 N.m
M5 screw	2.0 to 3.0 N.m

6.1.2 Boniers

Outdoor unit

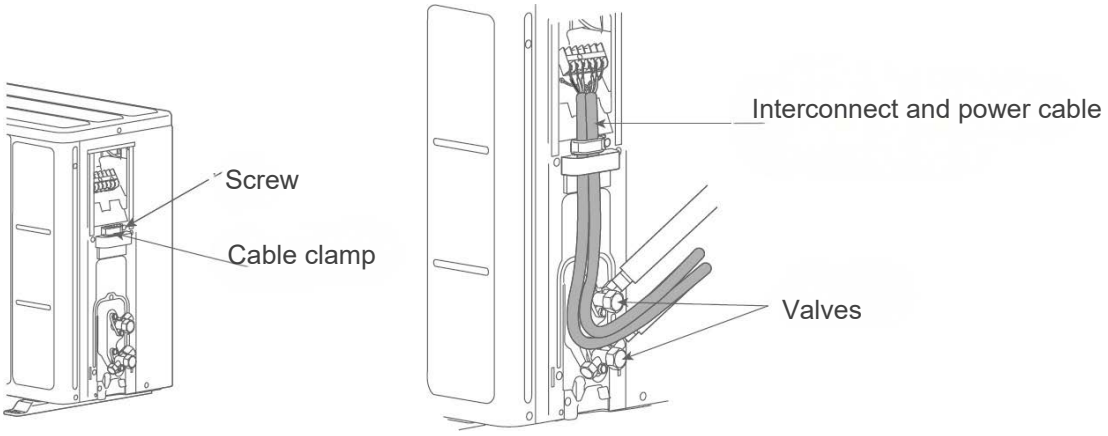


Indoor unit



- Match the terminal block numbers of the indoor unit connection cables with those of the outdoor unit.
- Connect the connection cables securely to the terminal block. Improper installation may cause a fire.
- Insert the connection cable firmly into the terminal block. An incorrectly inserted cable may cause a poor connection.
- Do not forget to earth the installation.
- Use the grounding connection for the connection between two units.
- Do not attach a rigid wire with a crimped round terminal. Pressure on the terminal may cause malfunctions and abnormally heat the cable.

6.1.3 Cable routing



7 COMMISSIONING THE INSTALLATION

7.1 Precautions

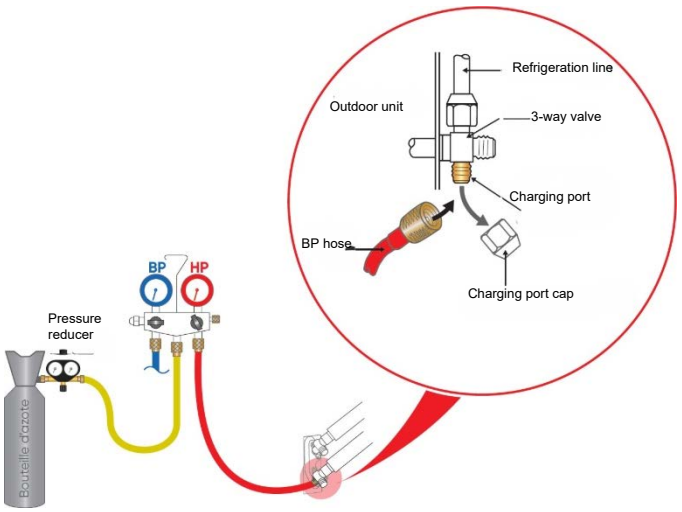
- The commissioning of this air conditioner requires the services of a qualified installer who holds a certificate of competence in accordance with Articles R 543-75 to 123 of the Environmental Code and its implementing decrees. This also applies to any other operation carried out on equipment requiring the handling of refrigerants.

7.2 Equipment to be obtained

Manifolds (pressure gauge)	The pressure is high and cannot be measured using standard pressure gauges. It is recommended to use a manifold with pressure gauges with a measuring range of -0.1 to 5.3 MPa (HP) and -0.1 to 3.8 MPa (LP).
Schrader (Charging hose)	The use of hoses with quarter-turn valves facilitates handling during commissioning (no need to purge the hoses as they can be pulled empty and isolated). The valves should be positioned opposite the pressure gauge set.
Leak detector	Use a leak detector designed for HFCs (R32 compatible).
Vacuum pump	Use a suitable vacuum pump (containing POE synthetic oil).

7.2.1 Leak test (no leaks)

1. Remove the charging port cap (Schrader) located on the gas valve (large valve). Connect the red hose (side fitted with a valve push button in good condition) to it and connect the other side of the hose to the red tap on the HP pressure gauge.
2. Connect the yellow hose to a nitrogen cylinder fitted with its pressure regulator and the other end of the yellow hose to the central port of the pressure gauge set.
3. Ensure that the red tap on the HP pressure gauge and the blue tap on the LP pressure gauge are closed.
4. Open the valve on the nitrogen cylinder. Set the pressure regulator to an outlet pressure of approximately 10 to 15 bar. Open the red valve on the HP pressure gauge to obtain the desired pressure in the refrigeration lines and in the indoor unit.
5. Close the valve on the nitrogen cylinder.
6. Check the circuit for leaks by applying a soap solution to the connections on the indoor unit side and the outdoor unit side (plus any soldered joints on the refrigeration connections). Ensure that no bubbles appear.
7. Also check that the pressure indicated by the HP pressure gauge does not drop. When the pressure remains stable and there are no leaks, empty the nitrogen, leaving a pressure higher than atmospheric pressure.



7.2.2 Vacuum extraction

7.2.2.1 Calibration and inspection of a vacuum pump

1. Check the quality and level of oil in the vacuum pump.
2. Connect the vacuum pump to a vacuum gauge if the vacuum pump is not equipped with one.
3. Apply vacuum for a few seconds.
4. The pump must reach its vacuum threshold value and the vacuum gauge needle must no longer move.
5. The pressure of the vacuum level reached must be lower than the pressure indicated in the table below depending on the temperature. If this is not the case, replace the seal, hose or pump.

Temperature	5°C < T < 10°C	10°C < T < 15°C	T ≥ 15°C
Pressure (bar)	0.009	0.015	0.020
Pressure (mbar)	9	15	20

7.2.2.2 Vacuum draw procedure

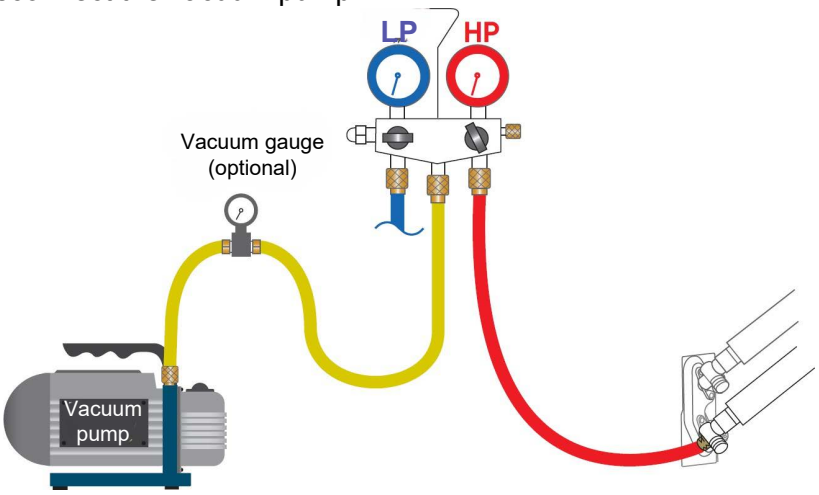
1. Purge the nitrogen from the circuit by opening the blue valve on the low pressure gauge (return to atmospheric pressure
   atmospheric pressure).
2. Disconnect the nitrogen cylinder and close the valves on the LP and HP pressure gauges.
3. Replace the nitrogen cylinder with the vacuum pump.

If the vacuum pump is not already equipped with one, a vacuum gauge can be inserted between the vacuum pump and the set of pressure gauges for greater accuracy.

4. Start the vacuum pump.
5. Open the red valve on the HP pressure gauge and wait until the pressure in the circuit drops below the value indicated in the table below according to the temperature.

Temperature	5°C < T < 10°C	10°C < T < 15°C	T ≥ 15°C
Pressure (bar)	0.009	0.015	0.020
Pressure (mbar)	9	15	20

6. Once the required vacuum has been achieved, leave the vacuum to draw for approximately one hour (the time may vary depending on the length of the connection and the humidity present in the network). The vacuum may take several hours to draw in humid conditions.
7. Check that the vacuum is maintained by closing the red valve on the HP pressure gauge. Switch off the vacuum pump. Do not disconnect any hoses.
8. After about ten minutes, the pressure should not have risen (the vacuum gauge should read 0 bar). If this is not the case, locate and repair the leak, then repeat the leak test and vacuum draw.
9. Close the red valve on the HP pressure gauge.
10. Switch off and disconnect the vacuum pump.



7.3 Additional charge (if necessary)

The additional load must be applied after vacuum pumping and before gas filling.

1. Calculate the additional charge to be added

The table below allows you to quickly determine the additional charge of R32 to be introduced, depending on the length of the refrigeration line.
depending on the length of the refrigeration line.

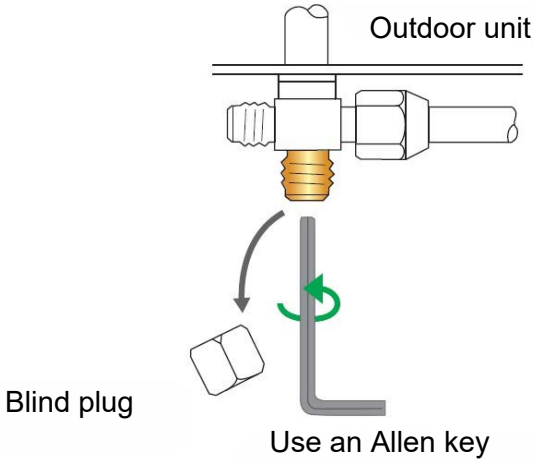
	YDAX-025H-09M25 YDAX-035H-09M25 YDAX-050H-09M25	YDAX-070H-09M25 YDAX-090H-09M25 YDAX-100H-09M25 YDAX-100H-09T35	YDAX-120R-09M25 YDAX-140R-09T35 YDAX-175R-09T35
Connection length without additional load (m)	5	5	5
Additional load (g/m)	12	24	24

2. Disconnect the vacuum pump (yellow hose) and connect an R32 cylinder in its place in the for liquid extraction.
3. Place the cylinder on a precision scale. Tare the scale.
4. Open the cylinder valve.
5. Carefully and gently open the red valve on the HP pressure gauge and monitor the value displayed on the scales. As soon as the displayed value corresponds to the calculated value minus 50 grams, close the red valve on the HP pressure gauge and then the valve on the fluid cylinder without disconnecting any hoses.
6. Proceed to return the refrigerant to the outdoor unit (pump down) so that the blue hose and, if necessary, the fluid cylinder can be disconnected without any refrigerant leakage (in this case, leave the red HP valve on the pressure gauge open).

Note: If the additional charge cannot be reached (pressure in the cylinder too low), it will be necessary to continue the operation with the system running (in COOL and TEST mode) and slowly open the red valve on the HP pressure gauge to avoid a sudden influx of liquid refrigerant d to the compressor suction line.

7.4 Gas filling

1. Remove the blind plugs from the outdoor unit valve controls.
2. First open the liquid valve (small valve) and then the gas valve (large valve) fully using a hexagonal/Allen key (anti-clockwise) without applying excessive force to the stop.



7.5 Checking for leaks in the circuit

Once the gas has been added as described above, use an electronic halogen gas detector to check the connections and any soldered joints on the refrigeration connections (if the joints have been made correctly, there should be no leaks).

In the event of a leak:

- Return the gas to the outdoor unit (pump down). The pressure must not fall below atmospheric pressure (0 bar relative reading on the manifold) in order to avoid contaminating the recovered gas with air or moisture.
- Replace the defective connection.
- Repeat the leak test and vacuum test.

7.6 Testing the unit

1. Set the unit to COOL mode and TEST mode, then carry out the necessary tests and measurements necessary tests and measurements.
2. Then switch the appliance to the HOT setting and TEST mode, then carry out the necessary tests and measurements.

7.7 Return the refrigerant to the outdoor unit (pump down)

1. Set the unit to COOL mode and TEST mode.
2. Close the liquid valve and begin to close the gas valve until it is half closed.
3. Wait for the pressure to drop, ensuring that it does not fall below 0 bar. When the pressure approaches 0 bar, close the gas valve completely.
4. Switch off the unit and remove the hoses.
5. Open the liquid valve (small valve) and then the gas valve (large valve).
6. Refit the blind plugs on the valves and tighten them with a spanner to the specified torque indicated.

Blind plug diameter	Tightening torque
1/4" (6.35 mm)	20 to 25 N.m
3/8" (9.52 mm)	20 to 25 N.m
1/2" (12.70 mm)	28 to 32 N.m
5/8" (15.88 mm)	30 to 35 N.m
Charging port cap	12.5 to 16 N.m

7. Restart the air conditioner.
8. Provide the customer with the necessary explanations and documents.

8 STATIC PRESSURE ADJUSTMENT

It is necessary to set a static pressure for each use. If the applicable static pressure does not match the static pressure setting, the static pressure setting can be changed manually.

To access the static pressure setting, follow these instructions:

1. Press "ON/OFF" to switch off the unit.
2. Press "COPY"  " for 3 seconds.
3. Press "UP" and/or "DOWN" to find the desired setting.
4. For manual adjustment, select "SP" and confirm with "Confirm".
5. Choose the setting according to the table below.
6. For automatic adjustment, select "AF", confirm with "Confirm".

8.1 Manual setting

			DDMD-090N-09M25	DDMD-100N-09M25
1	25	25	30	37
2	50	50	45	45
3	70	70	75	75
4	90	90	90	90
5	100	110	105	105
6		130	135	120
7		150	150	150
8		160	160	160

		DDMD-175N-09M25
1	50	50
2	50	50
3	70	80
4	90	90
5	110	110
6	130	130
7	150	150
8	160	160

8.2 Automatic adjustment

- This function cannot be used when there is a secondary fan.
- Ensure that the static pressure is within the permitted range. Incorrect settings may cause insufficient air flow or water leakage.
- When the external static pressure varies with the automatic dampers, adjust the external static pressure to the lowest setting.
- Ensure that this adjustment is made before any other operation. A hot motor or wet exchanger can lead to incorrect settings.
- Check that the electrical wiring and duct installation are complete.
- Ensure that the dampers are open.
- Check that the air filter is secured.
- If there are multiple inlet and outlet ports, ensure that the air flow from each corresponds to the intended air flow rate by adjusting the dampers.

- Automatic airflow setting procedure:

1. Ensure that the unit is in VENTILATION mode and set the desired air speed. (Low / Medium / High)
1. Press "ON/OFF" to switch off the unit.
2. Press "COPY" " for 3 seconds.
3. Press "UP" and/or "DOWN" to find the desired setting.
4. For automatic adjustment, select "AF" and confirm with "Confirm".

The unit will operate for between 3 and 6 minutes. Once finished, the mode will stop automatically.

9 EXTERNAL INPUTS AND OUTPUTS

Connectors	Options
CN33	Alarm output
CN23	ON/OFF contact
CN8	Fresh air connection
CN41	Wired remote control connection
CN3	Centralised remote control connection
CN38	Wi-Fi kit connection

9.1 ON/OFF contact

To use this ON/OFF contact, you must remove the shint from the JR6 terminal block.
The control logic for this switch is as follows:

- Switch open: the unit is OFF. The unit does not respond to commands from the wired or infrared remote controls. "CP" is displayed on the wired remote control and/or on the screen.
- Switch closed: the unit is ON. The unit responds normally to commands.

The unit reacts to the change of state within 2 seconds.
This contact is 12VDC. The maximum current is 5 mA.

9.2 Alarm output

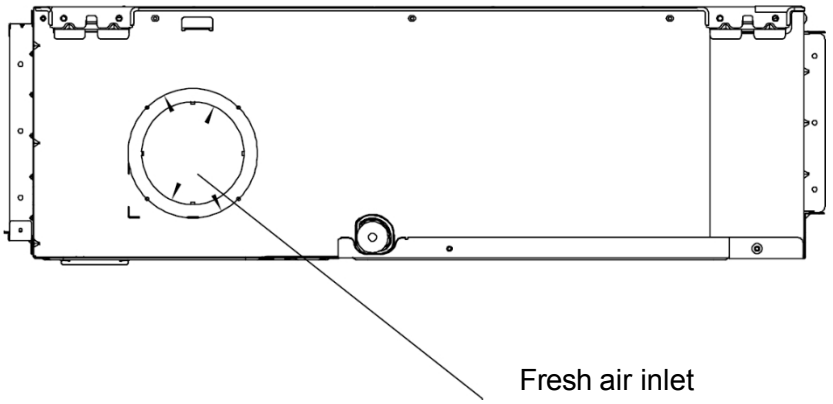
This alarm contact is potential-free and does not supply any voltage.
In the event of a fault on the unit, the contact closes.
The voltage and current supported by this contact are: 24V and 0.5A.

9.3 Fresh air connection

9.3.1 Position of the fresh air inlet

To connect the fresh air duct, remove the pre-punched sheet metal section on the side of the machine.

		DDMD-050N-09M25 DDMD-070N-09M25 DDMD-090N-09M25 DDMD-100N-09M25 DDMD-120N-09M25 DDMD-140N-09M25	DDMD-175N-09M25
Diameter (mm)	92	100	125



9.3.2 Fan connection

To bring fresh air into the unit, connect a fan to the CN8 port. This port is connected to the unit's power supply.
When selecting a fan, do not exceed 200W or 1A (whichever is lower).
The fan will operate at the same time as the unit's main fan. The fresh air fan does

not operate in test mode and FORCE COOLING mode.

9.4 Wired remote control connection

The wired remote control (supplied) connects to the CN41 port (HA / HB).
Use a 22AWG twisted shielded cable. Maximum length 30m
Refer to the wired remote control manual for the rest of the installation.

9.5 XYE connection

9.5.1 Centralised remote control

The XYE port can be used to connect a centralised remote control. It connects to the CN3 port.
Use a 22AWG twisted shielded cable.
Refer to the wired remote control manual for the rest of the installation.

You will also need to change the address of the ductable, see 10.2.

9.5.2 Use in duo/trio/quatro mode

When installing units in duo/trio/quatro mode, the XYE port is used for communication between the different units.
Use a 22AWG twisted pair shielded cable.

Refer to the instructions for installing duo/trio/quatro systems.

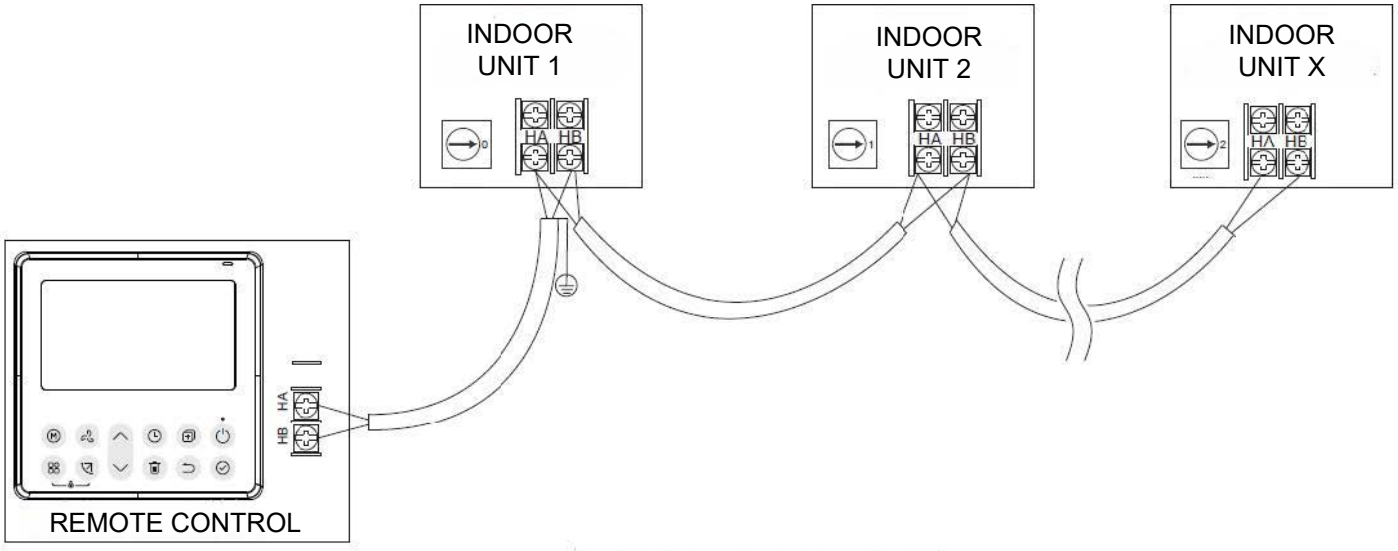
Contact your local dealer or Airwell.

10 GROUP REMOTE CONTROL

- A single remote control can control multiple devices. These devices must use the same type of remote control. Connect up to 16 indoor units with a single remote control:
- Group control cannot be used simultaneously with the Wi-Fi interface.
- When multiple types of indoor units are connected to a group control, some functions may not be available.

- Switch off the circuit breaker before making any adjustments.

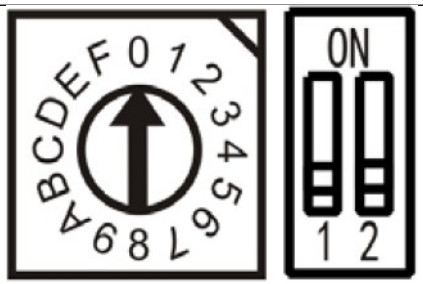
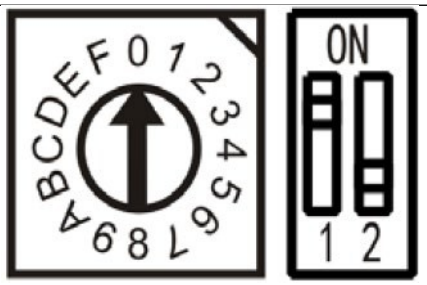
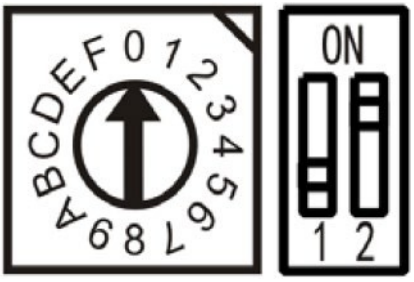
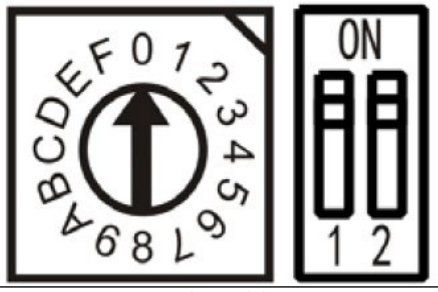
10.1 Wiring



Maximum cable length 200 m.

10.2 Address setting

For group control to work, each unit must be given a unique address. Identify microswitches S1 and S2.

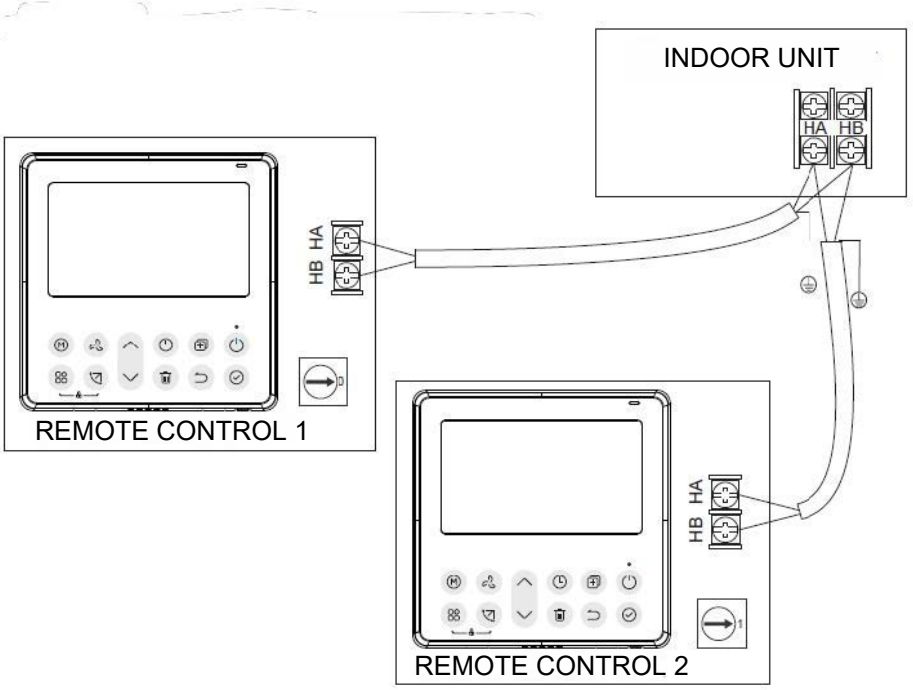
S1 + S2		
Address	0 to 15	16 to 31
S1 + S2		
Address	32 to 47	48 to 63

It is essential to follow the connection order of the units with the addressing order.

11 CONTROL WITH 2 REMOTE CONTROLS

- Two remote controls can be used to operate one indoor unit.

11.1 Wiring



11.2 Setting

To operate, the remote controls must have different addresses.
Set one remote control to 0 and the other to 1.

12 FUNCTIONS AND SETTINGS

Several functions can be modified directly on the unit's electronic board. These functions are detailed in the following paragraphs.

12.1 Cold mode lock

When using the unit in cooling mode only, this microswitch can be used to disable the heating mode
.
The SW1-1 microswitch allows you to change the setting:

SW1 Settings	1	Factory setting
Hot & cold	OFF	X
Cool only	ON	

12.2 Fan operation

When the set temperature is reached, the indoor unit fan may remain active or switch off.
The SW1-2 microswitch allows you to change the setting:

SW1 Settings	2	Factory setting
Off	OFF	X
On	ON	

If the setting is "On", then the "anti-cold air" function is no longer active in heating mode.

12.3 Master/slave setting

When using multiple units in the same room, it is possible to operate them all at the same time with the same remote control.
To do this, use the master/slave function.
The SW1-3/4 microswitch allows you to change the setting:

SW1 Settings	3	4	Factory setting
Master (not slave)	OFF	OFF	X
Master	ON	OFF	
Master	OFF	ON	
Slave	ON	ON	

12.4 Anti-cold air function

This function prevents cold air from being blown out in heating mode until the indoor unit has reached the the correct temperature. You can change this setting.
The SW2-1/2 microswitch allows you to change the setting:

SW2 Settings	1	2	Factory setting
24°C	OFF	OFF	X
15°C	ON	OFF	
8°C	OFF	ON	
Depending on microcontroller setting	ON	ON	

12.5 Compensation temperature in hot mode

This function allows you to modify the temperature read by the return sensor in hot mode. You can modify this setpoint.
The SW2-3/4 microswitch allows you to change the setting:

SW2 Settings	3	4	Factory setting
6°C	OFF	OFF	X
4°C	ON	OFF	
2°C	OFF	ON	
Depending on microcontroller setting	ON	ON	

Depending on the height of the installation, the higher the unit, the higher the value should be.

12.6 Automatic restart function

In the event of a power failure, the unit can restart in the same operating mode as before the failure. Otherwise, the unit will not restart.
The SW8-3 microswitch allows you to change the setting:

SW8 Settings	3	Factory setting
Restart	OFF	X
Stop	ON	

13 CHECK BEFORE POWERING UP

	Consequences
Is the indoor unit properly installed?	Vibrations, noises, falls, etc.
Is there a refrigerant leak?	No cold, no heat
Is the insulation properly installed?	Risk of condensation
Is the power source the one that corresponds to the indoor unit?	Not working...
Are the cables and connections properly connected?	Not working...
Is the interconnect cable cross-section correct?	Not working...
Is the condensate draining properly?	Water leaks
Are the air inlets and outlets blocked?	No cooling, no heating
After installation is complete, has the operating principle been explained to the user?	

14 FUNCTION TEST

Check the following points before starting an operational test:

- Indoor unit

☐ Remote control buttons

☐ The indicator lights on the indoor unit

☐ Normal condensation water drainage (if necessary, pour a little water into the unit's heat exchanger using a spray bottle to check that it is draining properly)

☐ No noise or vibrations during operation.

- Outdoor unit

☐ No noise or vibrations during operation

☐ No draughts, water or ice coming out of the outdoor unit that could disturb the neighbourhood.

☐ Normal drainage of condensation water

☐ No gas leaks

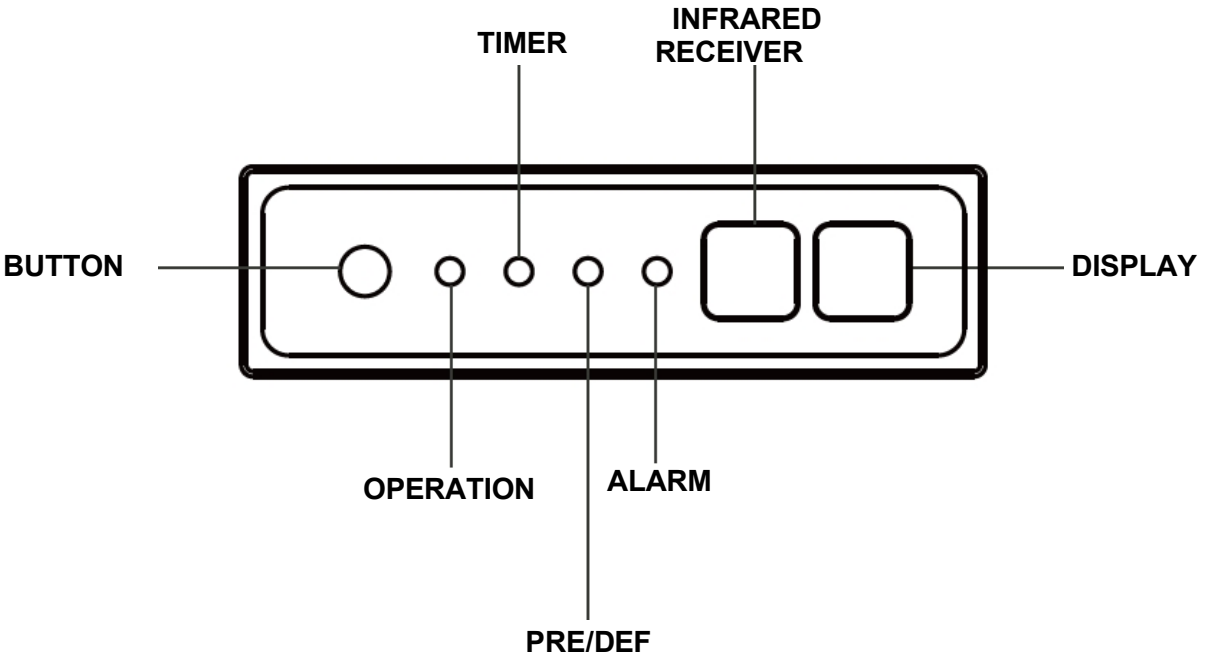
Start the operation test by switching on the unit and selecting the cooling mode. Leave the unit running the unit to run long enough to check all the points.

15 ERROR CODES

- The following table shows the flashing sequences of the indoor unit and the error codes. An error display only appears during operation.
- When using a wired remote control, the error codes are displayed on the remote control screen.
  remote control.
- When using an infrared remote control, error codes are displayed via a series of flashes on the indicator lights near the infrared sensor.

Indoor unit indicator light		Screen or wired remote control	Description
Operation	Timer		
1	OFF	EH 00 / EH 0A	Indoor unit EEPROM parameter error
2	OFF	EL 01	Communication error between indoor unit and outdoor unit
4	OFF	EH 03	The indoor fan speed is outside the normal range
4	OFF	EH 31	The speed of the upper fan is outside the normal range
4	OFF	EH 32	The lower fan speed is outside the normal range
6	OFF	EH 60	The indoor ambient temperature sensor T1 is open circuit or short circuit
6	OFF	EH 61	The evaporator coil temperature sensor T2 is open circuit or short circuit.
8	OFF	EL 0C	Refrigerant leak detected
9	OFF	EH 0b	Communication error between the display board and the main board
13	OFF	EH 0E	Water level alarm fault
5	OFF	EC 53	The T4 outdoor ambient temperature sensor is open circuit or short circuit.
5	OFF	EC 52	The condensing coil temperature sensor T3 is open circuit or short circuit. is open or short-circuited
5	OFF	EC 54	The compressor discharge temperature sensor TP is open circuit or short circuit
5	OFF	EC 55	The IGBT TH temperature sensor is in an open circuit or short-circuited
5	OFF	EC 56	The temperature sensor at the outlet of the T2B outdoor evaporator coil is open circuit or short-circuited
5	ON	EC 51	Outdoor unit EEPROM parameter error
12	OFF	EC 07	The outdoor fan speed is outside the normal range
7	FLASH	PC 00	IPM failure or IGBT overcurrent protection
2	FLASH	PC 01	Overvoltage or undervoltage protection
3	FLASH	PC 02	Protection against maximum compressor temperature or high temperature protection for the IPM module
5	FLASH	PC 04	Inverter compressor control error
7	FLASH	PC 03	High pressure or low pressure protection
14	OFF	EC 0d	Outdoor unit failure

Indoor unit indicator light		Display or wired remote control	Description
Operation	Timer		
		EH bA	Communication failure between external fan module and indoor unit
4	OFF	EH 3A	External fan DC bus voltage too low
4	OFF	EH 3b	External fan DC bus voltage too high
1	ON		Indoor unit mode conflict
4	FLASH	PC 0L	Low ambient temperature protection



16 MAINTENANCE

These operations, which anyone can perform, should be carried out at the frequencies recommended below.

Every month (more often in dusty environments)
Cleaning the indoor unit air filter (The air filter is easily accessible on the indoor unit and can be cleaned either with a vacuum cleaner or with water at a temperature below 40°C).

Every 3 months
Clean the exterior of the indoor unit, particularly the air intake grille, with a soft, damp cloth (avoid harsh detergents).

17 MAINTENANCE

These operations must only be carried out by qualified personnel.
Your authorised installer is of course at your service for these operations.
They can offer you a maintenance contract that includes periodic visits (see below).

Seasonal maintenance

- Checking and cleaning air filters
- Checking the refrigeration circuit for leaks (mandatory for certain appliances*)
- Cleaning the indoor unit's condensate tray: cleaning and disinfecting the indoor unit's heat exchanger
  with a suitable product
- Checking and cleaning the condensate drain system if necessary (especially if a lift pump is used)
  lift pump is used)
- Checking the general condition of the appliance).

** Articles R 543-75 to 123 of the French Environmental Code and its implementing decrees require all owners of equipment containing more than five tonnes of CO2 equivalent HFC (plate; signage) to have the tightness of their installation checked annually by a company that is duly registered with the prefecture and authorised to carry out this type of work.*

Complete maintenance

Operations described for seasonal maintenance, supplemented by:

- Dusting of the outdoor unit's heat exchanger, if necessary
- Measurement of the unit's performance (inlet/outlet temperature difference, evaporation and condensation temperature, power consumption)
- Checking the tightness of electrical connections
- Measurement of electrical insulation
- Checking the condition of the external casings and insulation of the refrigeration lines
- Checking various fastenings

AIRWELL GROUP
10 RUE DU FORT DE SAINT-CYR
78180 MONTIGNY LE BRETONNEUX
FRANCE

25.AW.DDMD.IM.R32.EN.06.08