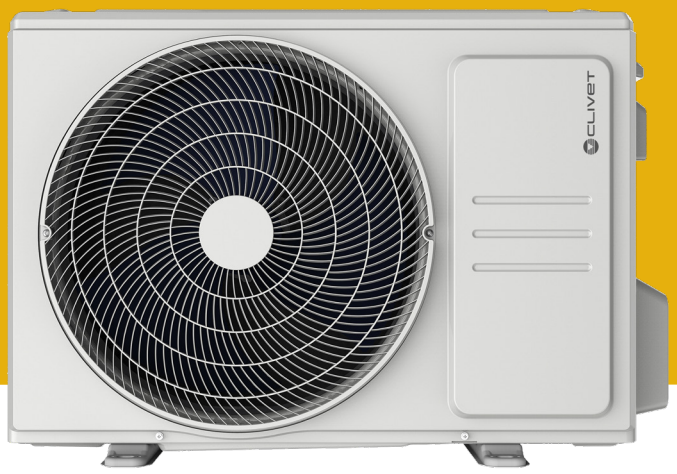
OUTDOOR UNIT
SINGLESplit

EZCOOL / NATIV 2

MLA1-Y series from 27M to 70M

MANUAL
FOR INSTALLATION, USE AND MAINTENANCE



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INTRODUCTION

Dear Customer,
Thank you for choosing a **CLIVET** product.
The **EZCOOL / NATIV 2** model which you have chosen, is a high performance product of advanced design and technology, high reliability and quality construction.
We suggest that you entrust its management and maintenance to professionally qualified personnel you trust, who, when necessary, only use original spare parts.
This manual contains important information and tips that must be followed for easier installation and the best possible use of the appliance.

RANGE

SINGLESplit systems	
EZCOOL / NATIV 2	MLA1-Y series from 27M to 70M

SYMBOLS USED IN THE MANUAL AND THEIR MEANING

WARNING
To indicate special information.

CAUTION
To indicate particularly important and delicate operations.

CAUTION DANGER
To indicate actions which, if not carried out correctly, may result in general accidents or may cause malfunctions or material damage to the device; therefore, they require special attention and adequate preparation.

ATTENTION ELECTRIC DANGER
To indicate actions which, if not carried out correctly, may result in accidents of electrical origin; therefore, they require special attention and adequate preparation.

IT IS PROHIBITED TO
To indicate actions that MUST NOT be performed.

FLAMMABLE MATERIAL
Indicates that the appliance uses a flammable refrigerant.

WARRANTY

The product **CLIVET** is covered by a **conventional warranty**, valid from the date of purchase of the appliance, the conditions of which are specified in the GENERAL CONDITIONS OF SALE available at **www.clivet.com**

WARNING
- The warranty is void if the appliance has been used without following the instructions in this manual.
- The warranty will be forfeited if the customer makes changes and/or attempts to repair the product himself or through third parties not authorized by the manufacturer/authorized dealer.
- The product must be intended for the use intended by **CLIVET** for which it was expressly made. Any contractual and non-contractual liability **CLIVET** for damage caused to persons, animals or property by installation, adjustment, maintenance and misuse errors is excluded.

INDEX

1 General Details 4

1.1 General warnings and safety rules 4
1.2 Description of system components 6
1.3 Accessories 7
1.4 Identification 8

2 Installation 9

2.1 Product receiving 9
2.2 Size and weight 9
2.3 Installation - preliminary warnings 9
2.4 Outdoor unit installation 10
2.4.1 Installation Site 10
2.4.2 Installation of the drain connection 11
2.4.3 Mounting the outdoor unit 11
2.4.4 Electrical connections 12

3 Starting up the system 14

3.1 Air evacuation 14
3.1.1 Refrigerant charge 15
3.2 Electrical dispersion and gas leakage control 15
3.2.1 Electrical safety controls 15
3.2.2 Checking for gas leaks 15
3.3 Function test 15
3.3.1 Preliminary checks 15
3.3.2 Operating test instructions 15

4 Maintenance 17

4.1 Troubleshooting 17
4.1.1 Abnormalities and remedies 17
4.2 Outdoor unit error messages 19
4.3 Operate safely with R32 refrigerant present 20

5 Disposal 24

5.1 WEEE Disposal Procedure (Italian Market) 24
5.2 WEEE Disposal Procedure (German Market) 24
5.3 WEEE Disposal Procedure (Croatian Market) 24

6 Notions on refrigerant piping connection .. 25

6.1 Refrigerant piping connections 25
6.1.1 Cut the pipes 25
6.1.2 Eliminate smudges 25
6.1.3 Countersink the ends of the pipes 26
6.1.4 Connect the pipes 27
6.2 Connecting the pipes to the indoor unit 27
6.3 Connecting the pipes to the outdoor unit 28

7 Technical data 29

8 Attachments 30

8.1 Outdoor Unit Wiring Diagrams 30
8.2 Conformance Statement 32



1 GENERAL DETAILS

1.1 General warnings and safety rules

WARNING

- This manual is the property of CLIVET and reproduction or transfer to third parties of the contents of this document is prohibited. All rights reserved. It is an integral part of the product; make sure that it is always supplied with the appliance, even in case of sale/transfer to another owner, so that it can be consulted by the user or by personnel authorized to carry out maintenance and repairs.
- Read this manual carefully before using the unit to ensure its safe operation.
- Periodically check the integrity of the power cord, plug and related socket. If the power cable is damaged, it may only be replaced by the manufacturer or the local distributor who sold the appliance or by authorised maintenance and repair personnel.
- The installation must be carried out by an authorized dealer or a qualified technician. Faulty installation may result in water leakage, electric shock or fire.
- Work on the refrigerant circuit must only be carried out by persons with a valid certification, issued by an accredited body, certifying their competence to handle refrigerants safely in compliance with the specifications in force in the sector.
- The installation must be carried out according to the instructions provided. An incorrect installation may cause water leaks, electric shock or fire.
- Install the drain hose according to the instructions in this manual. Incorrect draining can cause water seepage or flooding with possible damage to the home and other property.
- The device must be stored in such a way as to prevent any mechanical damage.
- Consult a qualified technician for unit repair or maintenance.
- Perform the installation using only the supplied accessories and parts specified. The use of non-standard components may cause water leakage, electric shock or fire and cause the unit to malfunction.
- Do not use any means other than those recommended by the manufacturer to accelerate the defrosting process or to clean the unit.
- The appliance must be placed in a room that does not contain any ignition sources operating continuously (e.g. open flames, gas appliances or electric heaters).
- Note that the coolants are odourless.
- Always use the specified cables for all electrical work. Connect the cables securely and secure them in a stable manner to prevent the terminals from being damaged by external forces. Incorrect electrical connection may cause overheating conditions and may result in fire and electrocution.
- The cables must be arranged so that the control board cover can close properly. If the control board cover is not closed properly, corrosion may occur and the connection points on the terminals may become hot, ignite or cause electric shock.
- In some functional environments such as kitchens, server rooms, etc., it is recommended to use specially designed air conditioners.
- The appliance is only suitable for use by children 8 years old and over and persons with reduced physical, sensory or mental capabilities or lack of experience or knowledge when they are properly supervised or have received instructions on the safe use of the appliance and have understood the associated dangers. Prevent children from playing with the appliance. Cleaning and maintenance operations must not be carried out by children without supervision.
- For electrical work, comply with the provisions of the national electrical code, local regulations, current regulations and the requirements contained in the installation manual. It is necessary to use an independent circuit and a single power outlet. Do not connect other appliances to the same electrical outlet. Insufficient electrical capacity or faulty electrical installation may cause risk of electric shock or fire.



CAUTION DANGER

– When connecting refrigerant piping,keep substances or gases other than the specified refrigerant from entering the unit. The presence of other gases or substances can reduce unit performance and cause an abnormal increase in pressure in the refrigeration cycle. This can lead to explosion hazards and resulting injuries.
– Install the unit on a stable stand that can support its weight. If the chosen stand cannot support the weight of the unit, or if the installation is not performed correctly, the unit may fall and cause injury and serious damage.
– Do not pierce or ignite the device.
– The appliance must be placed in a well-ventilated room whose dimensions correspond to those specified for operation.
– The product must be installed with earthing in accordance with the law to avoid the risk of electrocution.
– Do not install the unit in a location that may be exposed to combustible gas leakage. Any accumulation of combustible gas around the unit may cause a fire hazard.
– Do not operate the air conditioner in a very humid room, for example in a bathroom or laundry room. Excessive exposure to water can cause electrical components to short-circuit.



IT IS PROHIBITED TO

– Make changes and/or repair attempts to the product. Any repairs must be carried out by a qualified technician.
– Touch the device with wet, damp and/or barefoot body parts. If you notice current leakage that can be detected on contact with metal parts of the appliance, disconnect the switch, unplug it from the power supply socket and contact an authorised dealer.
– Use of the appliance by children and persons with reduced capacity or lack of experience and specific knowledge unless they are assisted by qualified personnel responsible for their safety.
– Disperse in the environment and leave within the reach of children the packaging material as it may be a potential source of danger. It must therefore be disposed of in accordance with current legislation.
– Change the length of the power cable or use extension cables to power the unit.
– Use the same electrical outlet for other equipment. Incorrect or insufficient power supply may cause fire or electric shock hazard.



NOTES ON FLUORINATED GASES

– This air conditioner contains fluorinated gas. For specific information on gas types and quantities, please refer to the plate found on the unit. It is always necessary to comply with national regulations regarding the use of gases.
– Installation, service, maintenance and repair of the unit must be performed by a qualified technician.
– The uninstallation and recycling of the product must be carried out by qualified technical personnel.
– If a leak detection device is installed in the system, it is necessary to check that there are no leaks at least every 12 months. When checking the unit for leaks, it is recommended to keep a detailed record of all inspections.
– Pay attention to the fact that refrigerant R32 is odourless.



FLAMMABLE MATERIAL

The refrigerant used inside this unit is flammable. A coolant leak that is exposed to an external ignition source can create fire risks

1.2 Description of system components

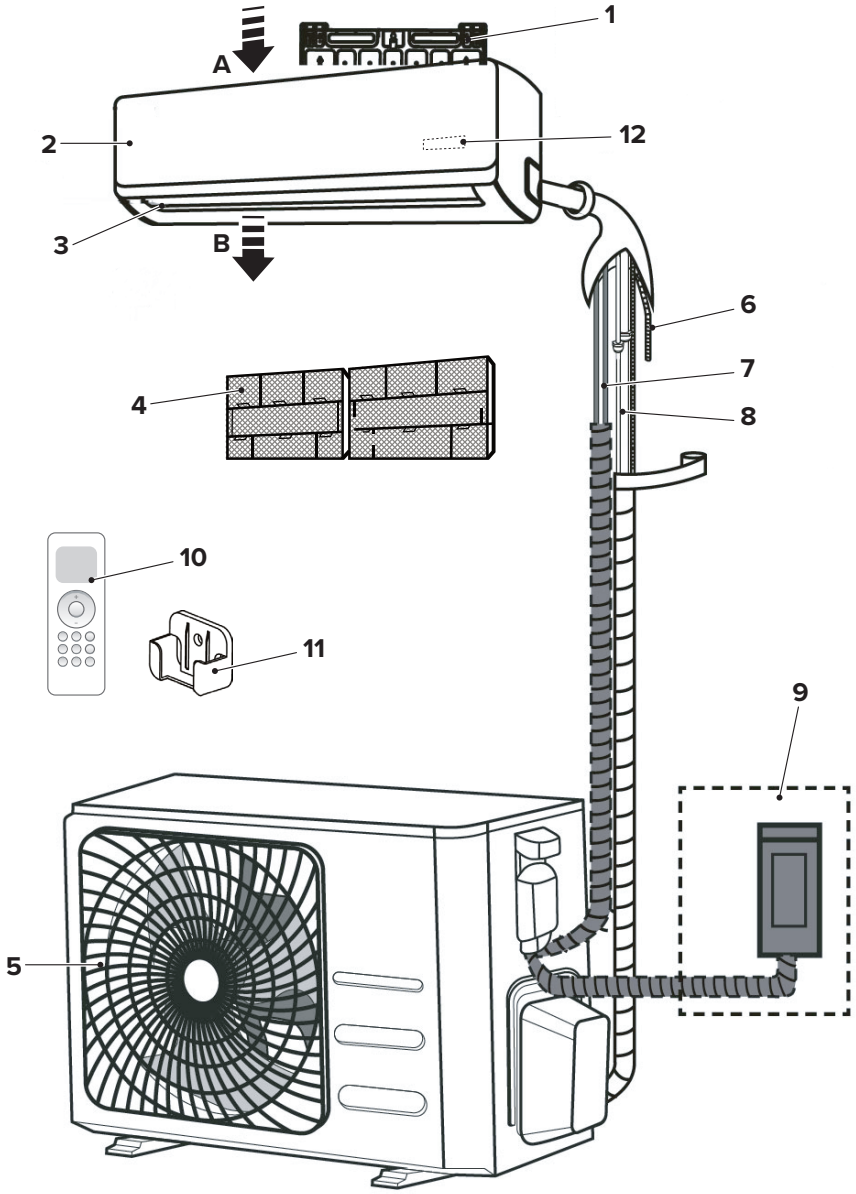


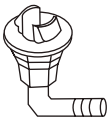
Fig. 1

A Air inlet
B Air outlet
1 Wall mounting plate
2 Indoor unit
3 Ventilation louver
4 Filter
5 Outdoor unit
6 Flexible drainage condensate hose
7 Electrical connection
8 Refrigerant piping
9 Outdoor unit power supply
10 Remote control
11 Remote control support
12 Display led EZCool / Nativ 2

WARNING
The images in this manual are provided for illustrative purposes only. The appearance of your device may differ slightly from the illustrations shown here. Refer to the actual characteristics of the unit.

1.3 Accessories

The air conditioner is equipped with the following accessories. Use all specified installation components and accessories to install it. Incorrect installation may cause water leakage, electric shock and fire, or cause the unit to malfunction.

Illustration	Waiting		Quantity
Gasket			1
Exhaust fitting			1
Installation use and maintenance manual			1
Connection pipe unit	Liquid side	Ø 6.35 mm (1/4”)	Components to be purchased separately. Consult your dealer for pipe sizes.
		Ø 9.52 mm (3/8”)	
	Gas side	Ø 9.52 mm (3/8”)	
		Ø 12.7 mm (1/2”)	
		Ø 15.9 mm (5/8”)	

1.4 Identification

The indoor unit and the outdoor unit can be identified by the serial number label that shows the technical and performance data of the unit and what is required by the legislation in force.

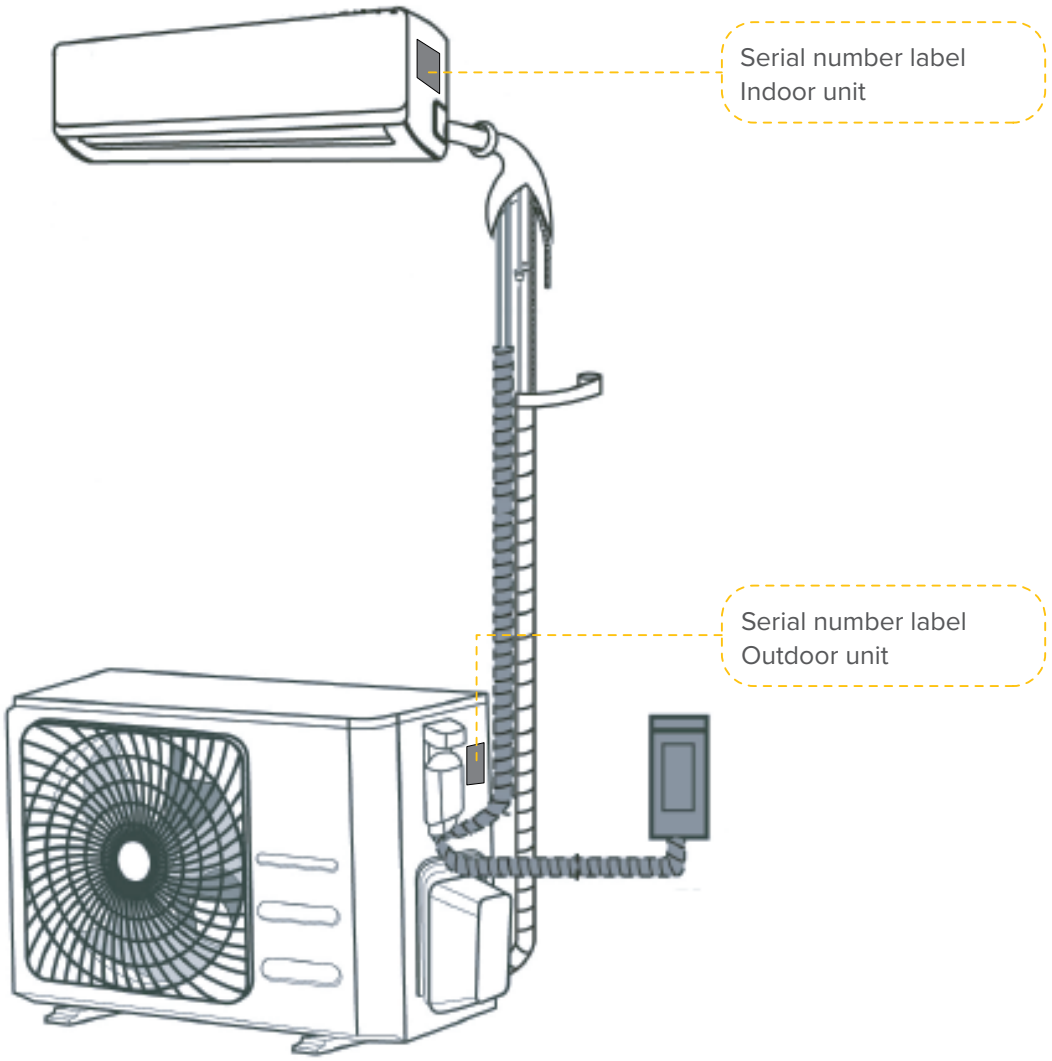


Fig. 2

CAUTION
Tampering, removal, lack of identification labels or anything else that does not allow safe product identification, makes any installation and maintenance operation difficult.

2 INSTALLATION

2.1 Product receiving

The appliance is supplied packed in several parcels. Handling must be carried out by appropriate means in view of the overall weight of the package.

Upon receiving the appliance, check the perfect integrity of all parts.
In case of damage to the equipment or missing material, please contact your authorized dealer promptly.

WARNING
The manual is an integral part of the product and therefore it is recommended that you read it before installing and commissioning the device and keep it with care for future reference or transfer to another Owner or User.

IT IS PROHIBITED TO
disperse in the environment and leave within the reach of children the packaging material as it can be a potential source of danger. It must be disposed of in accordance with current legislation.

2.2 Size and weight

	Outdoor unit			
	27M	35M	53M	70M
Width (mm)	720	720	805	890
Depth (mm)	270	270	330	342
Height (mm)	495	495	554	673
Weight (kg)	21	21	33,5	43,9

2.3 Installation - preliminary warnings

WARNING
Before installing the indoor unit, consult the label on the product package to check that the model number matches the model number of the outdoor unit.

ATTENTION ELECTRIC DANGER
- All electrical connections must be done by a licensed electrician according to the provisions of national and local electrical codes.
- All electrical connections must be made according to the wiring diagram on the panels of the indoor and outdoor units.
- If the electrical system has serious safety problems, stop work immediately. Explain the situation to the customer and refuse to install the unit until the security problem has been resolved.
- The power supply should correspond to 90-100% of the nominal voltage. Insufficient power supply may cause malfunction, electric shock or fire.
- If the power cables are permanently installed connected to the electrical system, install overcurrent protection and a main power switch with a capacity of 1.5 times the maximum current of the unit.
- The supply line must have a special protection upstream against short circuits and earthing leakage that sections the system with respect to other utilities. The technician must choose an approved differential circuit-breaker or main circuit breaker.
- Connect the unit to a single socket of a dedicated branch of the circuit. Do not connect other appliances to the same electrical outlet.
- The air conditioner must be properly grounded.
- All cables and conductors must be connected securely. Loosening a conductor may cause the terminal to overheat, which in turn may result in fire hazards or product malfunction.
- The electrical cables must not touch or rest against the refrigerant pipes, the compressor or any moving parts of the unit.

2.4 Outdoor unit installation

2.4.1 Installation Site

Before installing the outdoor unit, you must choose an appropriate position. The following guidelines may help you choose a suitable position for the unit.

The installation location must have the following characteristics:

- the space available for installation must meet the requirements indicated (see "Fig. 3")
- good air circulation and ventilation
- stability and strength - the load capacity must be sufficient to support the weight of the unit and there must be no vibrations
- the noise emitted by the unit must not disturb other people
- the position must be protected from prolonged exposure to sunlight or rain

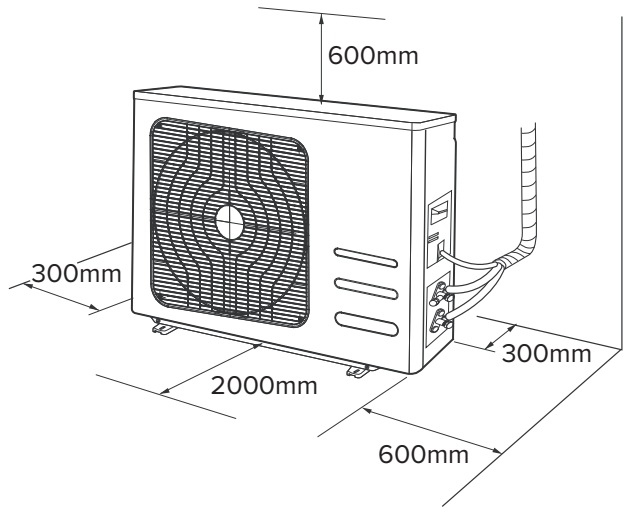


Fig. 3

It is PROHIBITED to install the outdoor unit in the following places:

- near an obstacle blocking the air inlets and outlets;
- near a public road, crowded areas or places where the noise from the unit may cause disturbance to others;
- near animals or plants that may be disturbed by the hot air coming out;
- near combustible gas sources;
- in very dusty places;
- in places excessively exposed to salty air.

SPECIAL CONSIDERATIONS FOR EXTREME WEATHER CONDITIONS

If the unit is exposed to strong wind:
Install the unit so that the air outlet fan is 90° to the direction of the wind. If necessary, place a barrier in front of the unit to protect it from particularly strong winds.

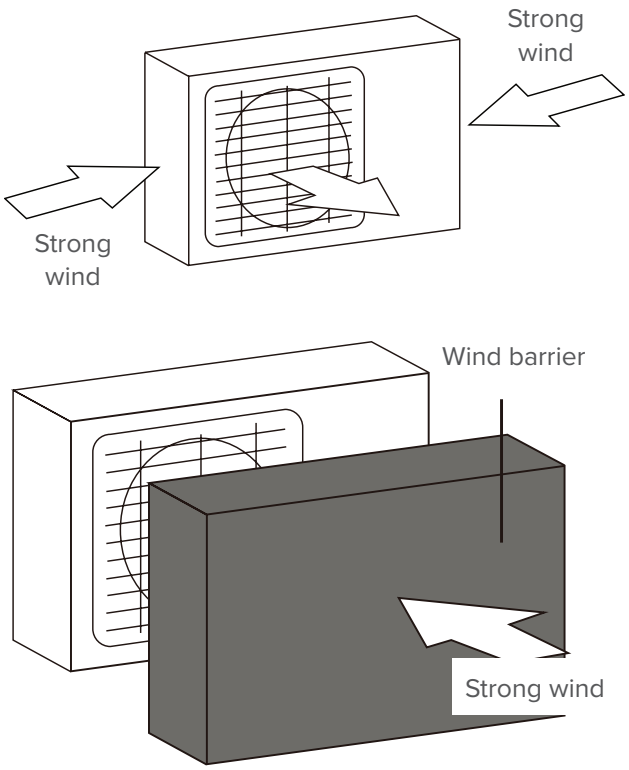


Fig. 4

If the unit is often exposed to heavy rain or snow:
Install a canopy above the unit to protect it from rain or snow. Make sure the airflow around the unit is not obstructed.

If the unit is often exposed to salty air (coastal areas):
Use an outdoor unit specially designed to resist corrosion.

2.4.2 Installation of the drain connection

Units with heat pump require a drain connection. Before fixing the outdoor unit in place, you must install the drain fitting at the base of the unit.

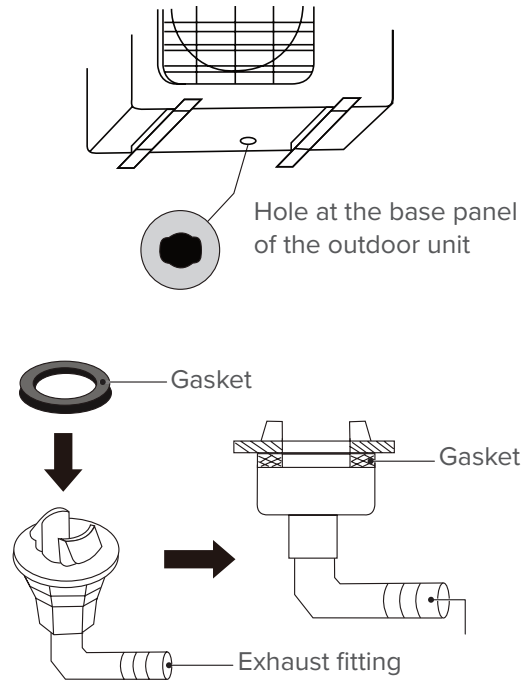


Fig. 5

1. Apply the rubber gasket to the end of the drain fitting to be connected to the outdoor unit.
2. Insert the drain fitting into the hole at the base panel of the unit.
3. From the position observing the front of the unit, turn the drain fitting 90° until it clicks into place.
4. Connect a drainage hose extension (not included) to the drain fitting to divert water from the unit during heating mode operation.

WARNING
In cold climates, check that the drainage pipe is as vertical as possible to ensure proper water flow. If the water flows out too slowly, it can freeze in the pipe and get stuck in the unit.

2.4.3 Mounting the outdoor unit

The outdoor unit can be fixed to the floor or to a wall mounted bracket.

Below are the different sizes of the outdoor units and the distances between their mounting feet.
Prepare the installation base of the unit according to the dimensions below.

	Outdoor unit			
	27M	35M	53M	70M
Width (mm)	720	720	805	890
Depth (mm)	270	270	330	342
Height (mm)	495	495	554	673
Weight (kg)	21	21	33,5	43,9
Distance “A” (mm)	452	452	514	540
Distance “B” (mm)	255	255	340	350

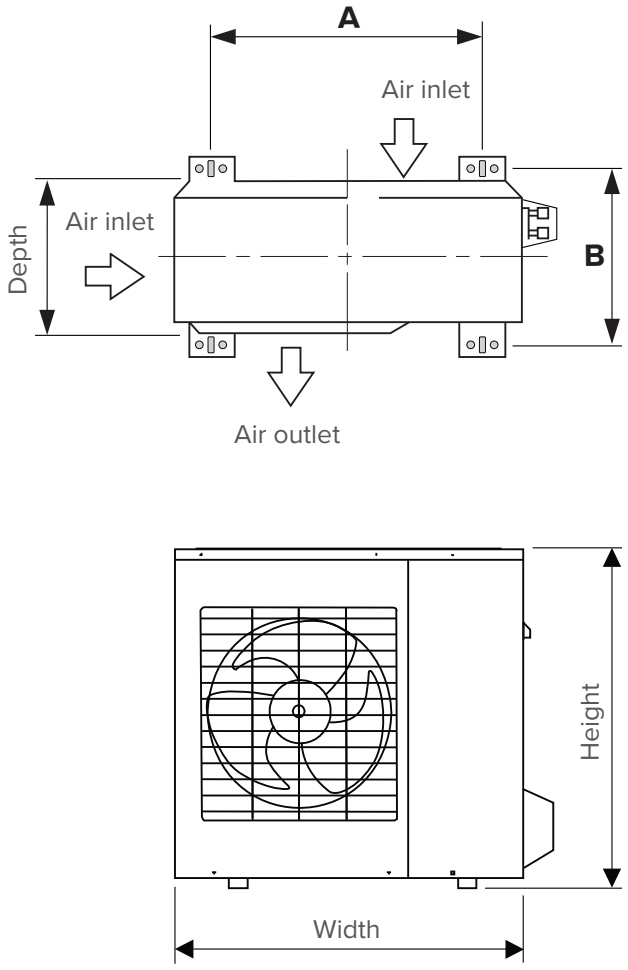


Fig. 6

If the unit is to be installed on the floor or on a concrete mounting platform, proceed as follows:

1. Mark the positions of the four expansion bolts according to the measurements shown in the mounting measurements diagram.
2. Drill the holes for the expansion anchors.
3. Clean the holes from concrete dust.

4 Insert a nut at the end of each expansion block.

5 Hammer the expansion anchors into the holes made.

6 Remove the nuts from the expansion anchors and place the outdoor unit on the anchors.

7 Insert a washer on each expansion plug and re-apply the nuts.

8 Using a key, tighten the nuts firmly.

CAUTION
When drilling holes in concrete, it is recommended to always use eye protection.

If the unit is to be installed on a wall-mounted bracket, proceed as follows:

CAUTION DANGER
Before installing a wall unit, make sure the wall is made of solid brick, concrete or materials with similar strength characteristics. **The load capacity of the wall must be sufficient to support at least four times the weight of the unit**.

1 Mark the positions of the holes for the brackets according to the measurements in the mounting dimensions diagram (see "Fig. 6").

2 Drill the holes for the expansion anchors.

3 Clean the holes from dust and concrete residue.

4 Insert a washer and nut at the end of each expansion plug.

5 Screw the expansion bolts into the holes of the mounting brackets, place the brackets in position and hammer the expansion bolts into the wall.

6 Check that the mounting brackets are aligned.

7 Lift the unit carefully and place the mounting feet on the brackets.

8 Screw the unit firmly to the brackets.

TO REDUCE VIBRATION OF WALL MOUNTED UNITS
If possible, install the unit on the wall using rubber seals to reduce vibration and noise.

2.4.4 Electrical connections

Cables with the following characteristics are required to power the outdoor unit:

Outdoor unit	Main power supply	
	V/Hz/p	n° cables/cross section
27M	230 / 50 / 1	2 x 1,5mm² + G
35M	230 / 50 / 1	2 x 1,5mm² + G
53M	230 / 50 / 1	2 x 1,5mm² + G
70M	230 / 50 / 1	2 x 2,5mm² + G

The indicated cross-sections are suitable for a wiring length of up to 5 metres.

Cables with the following characteristics are required for power supply and communication between the indoor and outdoor units:

Outdoor unit	Power supply to indoor unit	Signal to indoor unit
	n° cables/cross section	n° cables/cross section
27M	2 x 1.5mm² + G	2 x 1.5mm²
35M	2 x 1.5mm² + G	2 x 1.5mm²
53M	2 x 1.5mm² + G	2 x 1.5mm²
70M	2 x 2.5mm² + G	2 x 2.5mm²

The indicated cross-sections are suitable for a wiring length of up to 5 metres.

The terminal block of the outdoor unit is protected by a cover on the side of the unit. A complete wiring diagram is printed inside the cover.

ATTENTION ELECTRIC DANGER
Before making electrical connections, turn off the main switch of the system.

1 Prepare the cable for connection:

- Using a wire stripper, strip the rubber sheath at both ends of the cable and expose approximately 40 mm of the internal conductors.
- Strip the insulation sheath at the ends of the conductors.
- Using a crimping tool, crimp U-type wire terminals to the ends of the conductors.

CAUTION
When crimping, clearly identify live cables ("L") and other cables.

2 Unscrew and remove the terminal block cover.

3 Unscrew the cable clamp under the terminal block and hold it aside.

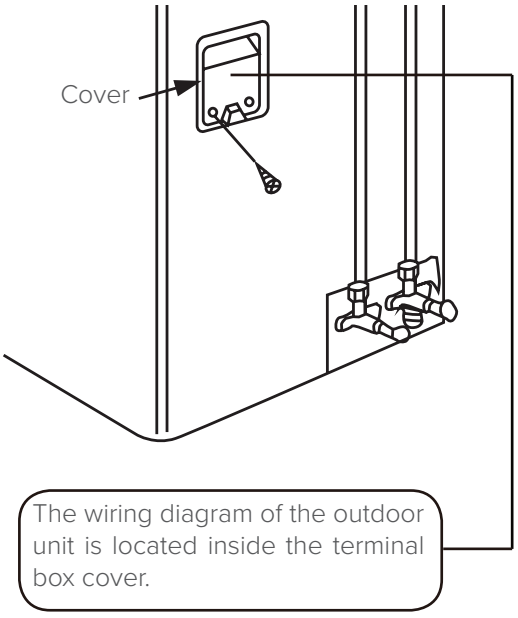


Fig. 7

4 Match the colours/labels of the cables to the labels on the terminal block, then screw the U-shaped wire terminal of each cable firmly to the corresponding terminal block.

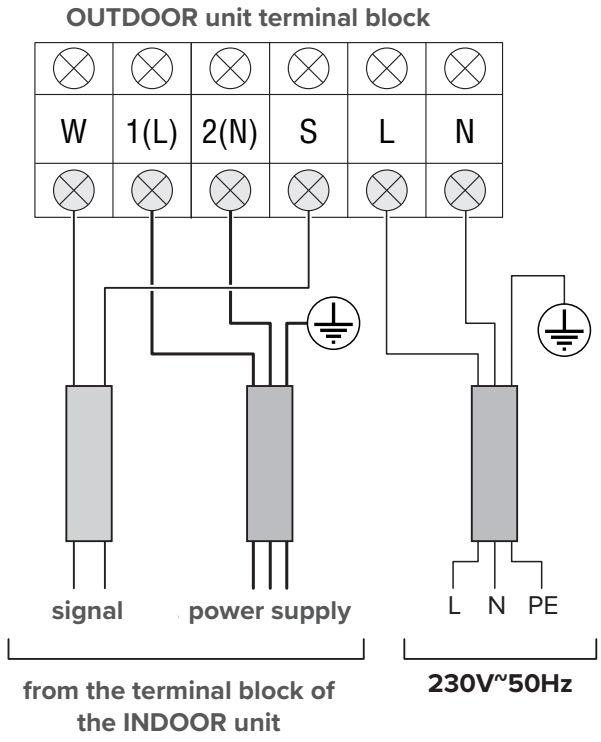


Fig. 8

5 Check that all connections are stable, then wrap the cables to prevent rainwater from entering the terminals.

6 Attach the cable to the unit using the cable clamp. Screw the cable clamp on firmly.

7 Insulate unused cables with PVC insulation tape. Arrange them so that they do not touch electrical or metal parts.

8 Replace the cover on the side of the unit and screw it back on.

3 STARTING UP THE SYSTEM

3.1 Air evacuation

The presence of air and foreign substances in the refrigerant circuit can cause abnormal pressure increases which, in turn, can damage the air conditioner, reduce its efficiency and cause injury. Use a vacuum pump and the manifold pressure gauge assembly to evacuate the refrigerant circuit to expel all moisture and non-condensable gases.
Evacuation should be performed at the initial installation and each time the unit is moved.

WARNING
BEFORE COMPLETING THE EVACUATION

- Check that both high pressure and low pressure pipes between the indoor and outdoor units are connected correctly as described in section "6 Notions on refrigerant piping connection".
- Check that all electrical cables are connected correctly.
- Ensure that installation of the refrigerant pipes complies with applicable legislation. In Europe, the applicable standard is EN378.
- During testing, NEVER bring the product to a pressure that is higher than the maximum allowable pressure (as indicated on the unit's information plate).

Before using the manifold pressure gauge assembly and vacuum pump, read their respective user manuals for the correct procedures.

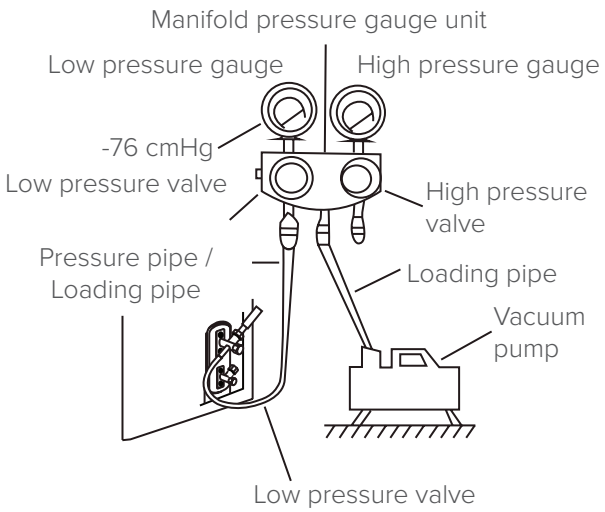


Fig. 9

1 Connect the manifold pressure gauge assembly loading hose to the service port on the low pressure valve of the outdoor unit.

2 Connect another loading pipe between the manifold pressure gauge assembly and the vacuum pump.

3 Open the low pressure side of the manifold gauge assembly. Keep the high pressure side closed.

4 Activate the vacuum pump to evacuate the system.

5 Keep the vacuum pump running for at least 15 minutes, or until the low pressure gauge indicator reads -76 cmHG (10^{-5} Pa).

6 Close the low pressure side of the manifold gauge assembly and switch off the vacuum pump.

7 Wait 5 minutes, then check that there are no changes in system pressure.

8 If a pressure change in the system is observed, refer to paragraph "3.2.2 Checking for gas leaks" for information on how to search for possible leaks. If the system pressure remains unchanged, unscrew the cap from the expansion valve (high pressure valve).

9 Insert a hexagonal key into the expansion valve (high pressure valve) and open the valve by turning the key 1/4 turn counterclockwise. Check that you can hear the noise of exiting gas, then close the valve after 5 seconds.

10 Observe the high pressure gauge for one minute to check that there are no changes in pressure. The value of the high pressure gauge should be slightly higher than atmospheric pressure.

11 Disconnect the loading hose from the service door.

12 Using a hexagonal wrench, fully open both the high pressure and low pressure valve.

13 Close the caps of the three valves by hand (service port, high pressure, low pressure). If necessary, tighten them further using a torque wrench.

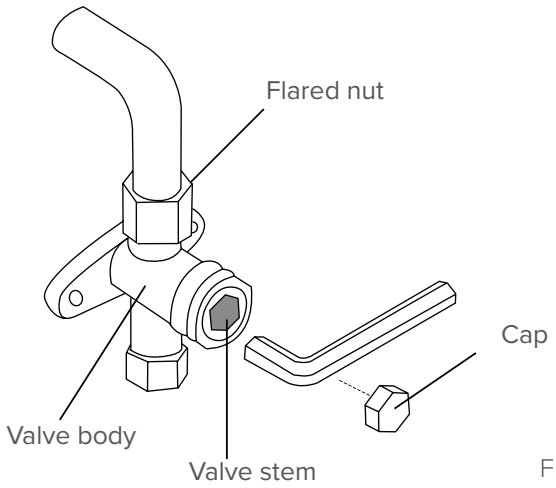


Fig. 10

CAUTION
OPEN THE VALVE STEMS WITHOUT FORCING
To open the valve stems, turn the hexagonal wrench until it is against the stop element. Do not force the valve to open further.

3.1.1 Refrigerant charge

The unit is factory pre-charged with a sufficient quantity of refrigerant for pipe length up to 5 metres.

Unit		27M	35M	53M	70M
Refrigerant pre-charge	kg	0,47	0,52	1,10	1,45

If the length of the pipes is longer than 5 metres, an additional charge of refrigerant is required.
For **each additional metre**, the following quantity of refrigerant must be added:

Unit		27M	35M	53M	70M
Additional charge	g/m	12	12	12	24

The refrigerant must be charged through the low pressure valve of the outdoor unit.

IT IS PROHIBITED TO
mix different types of refrigerant

FULL REFRIGERANT RECHARGE
If a full charge of the refrigerant is required (e.g. after moving / replacing the unit or after a leakage) the total refrigerant charge will be the sum of the factory refrigerant pre-charge + the additional charge in the case of a pipe length of more than 5 meters.

3.2 Electrical dispersion and gas leakage control

3.2.1 Electrical safety controls

After installation, check that all electrical cables are installed according to national and local codes and according to the instructions in the Installation Manual.

BEFORE THE OPERATIONAL TEST
Checking earthing
Measure the earthing resistance with visual detection and a specific tester. The earthing resistance must be less than 0.1Ω.

DURING THE OPERATIONAL TEST
Electrical dispersion control
During the operational test, use an electrode and multimeter to conduct a complete electrical leakage test. If an electrical leakage is detected, turn the unit off immediately and consult a qualified electrician to identify and resolve the cause of the problem.

ATTENTION ELECTRIC DANGER
All electrical connections must be done by a licensed electrician according to the provisions of national and local electrical codes.

3.2.2 Checking for gas leaks

There are two different methods of checking gas leaks.

Method with soap and water
Using a soft brush, apply soapy water or liquid detergent to all pipe joints of the indoor and outdoor units. The bubble formation will indicate a leak.
Leak detector method
If using a leak detector, follow the instructions in the user manual of the device.

Joints must be tested with detection equipment with a capacity of 5 g/year or more of refrigerant, with the equipment stopped and operating or under a pressure at least equal to that of the stopped or operating conditions after installation. Detachable joints must NOT be used on the inside of the unit (brazed or welded joints may be used).

AFTER CHECKING FOR GAS LEAKS
After checking that the pipe joints are NOT leaking, re-apply the valve assembly cover to the outdoor unit.

3.3 Function test

3.3.1 Preliminary checks

The function test shall be carried out only after the following procedures have been completed:

- Electrical safety checks - Check that the electrical system is safe and functioning properly
- Check for gas leaks - Check all joints with countersunk nuts and check the system for leaks
- Check that the valves on the gas and liquid side (high and low pressure) are fully open

3.3.2 Operating test instructions

The function test shall be carried out for at least 30 minutes.

1. Connect the unit to the power mains.
2. Press the ON/OFF button on the remote control to turn it on.
3. Press the MODE button to scroll through the following functions, one at a time:

– COOL - Select the lowest possible temperature
– HEAT - Select the highest possible temperature

4 Leave each function active for 5 minutes and perform the following checks:

List of checks to be performed	YES/NO	
Absence of electrical leakage		
The supply voltage corresponds to the voltage specified on the unit identification label		
The unit is properly earthed and the earthing terminals are tightened		
All electrical terminals are correctly connected and insulated		
Indoor and outdoor units are installed correctly		
Absence of damaged components or crushed pipes inside the indoor and outdoor unit		
All junction points are leak-free	External	Indoor
No refrigerant leaks.		
Water drains correctly from the drainpipe		
All pipes are properly insulated		
The stop valves (for gas and liquid) on the outdoor unit are fully open.		
The unit operates correctly in cooling mode		
The unit works properly in heating mode		
The ventilation slots of the indoor unit rotate correctly		
Indoor unit responds to the remote control		

CHECK THE PIPE JOINTS AGAIN
During operation, the pressure in the refrigerant circuit increases, and this can lead to leaks that were not detected during the initial check. During the function test, carefully check that none of the refrigerant pipe connections have a leak. For instructions, refer to section "3.2.2 Checking for gas leaks".

5 At the end of the operational test, if all the checks listed are positive, proceed as follows:

– Using the remote control, return the unit to normal operating temperature.
– Using insulating tape, wrap the connection points of the refrigerant pipes that are inside and that were left exposed during the installation of the indoor unit.

IF THE ROOM TEMPERATURE IS BELOW 16°C
If the room temperature is below 16°C, you cannot use the remote control to activate the cooling function (COOL). In this case, you can use the MANUAL CONTROL button to test the cooling function.

1 Lift the front panel of the indoor unit until it clicks into place.

2 The MANUAL CONTROL button is located on the right side of the unit. Press it 2 times to select the COOL function.

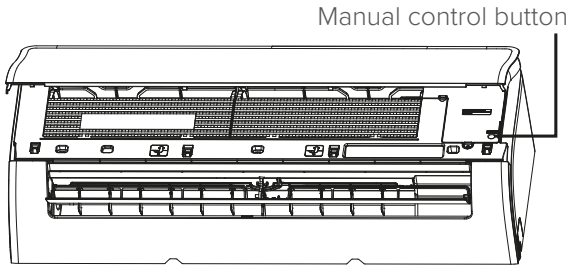


Fig. 12

3 Perform the function test normally.

4 MAINTENANCE

It is good practice to periodically clean both the internal and external parts of the appliance. This guarantees its proper functioning and durability.
Carry out periodic maintenance of the appliance in accordance with the regulations in force.
Maintenance must be carried out by qualified technical personnel.

ATTENTION ELECTRIC DANGER
Before cleaning or maintenance, always turn off the air conditioner and disconnect it from the power supply.

4.1 Troubleshooting

CAUTION DANGER
If any of the following conditions occur, turn the unit off immediately.
– The power cord is damaged or unusually hot.
– You can smell burning.
– The unit makes loud or abnormal noises.
– A fuse blows or the circuit breaker trips frequently.
– Water or other substance have fallen into the unit, or water or other substance have leaked from the unit.
DON'T TRY TO SOLVE THE PROBLEM YOURSELF. IMMEDIATELY CONTACT AN AUTHORISED SERVICE CENTRE.

4.1.1 Abnormalities and remedies

If problems occur, please check the following before contacting a service centre.

Anomalies	Possible causes	Remedies
Unsatisfactory cooling performance	The set temperature may be higher than the room temperature	Set a lower temperature
	The heat exchanger of the indoor or outdoor unit is dirty	Clean the heat exchanger (Service Centre)
	The air filter is dirty	Remove the filter and clean it following instructions
	The air inlet or outlet of the indoor or outdoor unit is blocked	Turn off the unit, remove the cause of the obstruction and turn the air conditioner on again
	Open doors and windows	Close doors and windows when using the unit
	Sunlight produces excessive heat	Close curtains and windows during the hottest hours or when the sun is brightest
	Too many heat sources in the room (people, computers, electronic devices, etc.)	Reduce heat sources
	Low refrigerant level due to leakage or prolonged use	Check for leaks, reseal the system if necessary and refill the coolant (Service Centre)
	The SILENCE function is active	The SILENCE function can reduce product performance by reducing the frequency of operation. Deactivate the SILENCE function.
The unit does not work	Power failure	Wait for power to be restored
	The unit is turned off	Switch on the device
	The fuse is blown	Replace the fuse (Service Centre)
	Remote control batteries are low	Replace batteries
	Protection function with 3-minute delay is active	Wait three minutes before restarting the unit
	The timer is active	Deactivate the timer

Anomalies	Possible causes	Remedies
The unit starts or stops frequently	The amount of refrigerant in the system is excessive or insufficient	Check for leaks and top up the coolant (Service Centre)
	Incompressible gas has entered or moisture has penetrated the system.	Evacuate the system and recharge the refrigerant (Service Centre)
	The compressor is faulty	Replace the compressor (Service Centre)
	The voltage is too high or too low	Install a voltage controller (Service Centre)
Unsatisfactory heating performance	The outside temperature is extremely low	Using an auxiliary heating appliance
	Cold air enters through doors and windows	Close doors and windows when using the unit
	Low refrigerant level due to leakage or prolonged use	Check for leaks, reseal the system if necessary and refill the coolant (Service Centre)
The indicator lights continue to flash	The unit may stop or continue to operate properly. If the indicator lights continue to flash or error codes are displayed, wait approximately 10 minutes. The problem may solve itself. If not, disconnect the unit from the power mains and reconnect it. Turn on the unit. If the problem persists, disconnect the unit from the power supply and contact the nearest service centre.	
An error code appears on the display of the indoor unit: • E0, E1, E2... • P1, P2, P3... • F1, F2, F3...		

***NOTE**: if, after performing the above checks and diagnostic procedures, the problem persists, turn the unit off immediately and contact an authorized service centre.*

4.2 Outdoor unit error messages

Led signaling on the board (only on 35M - 53M - M70 units)

Flashing= error displayed on the indoor unit
Slow flashing = stand-by
LED on = unit ON

Error code	Description
EC 51	Outdoor EEPROM malfunction
EL 01	Indoor / outdoor units communication error
PC 40	Communication malfunction between IPM board and outdoor main board
PC 08	Outdoor overcurrent protection
PC 10	Low voltage protection
PC 11	High voltage protection
PC 12	DC voltage protection
PC 00	IPM module protection
PC 0F	PFC module protection
EC 71	Overcurrent failure of outdoor DC fan motor
EC 72	Lack phase failure of outdoor DC fan motor
EC 07	Outdoor fan speed has been out of control
PC 43	Outdoor compressor lack phase protection
PC 44	Outdoor unit zero speed protection
PC 45	Outdoor unit IR chip drive failure
PC 46	Compressor speed has been out of control
PC 49	Compressor overcurrent failure
PC 30	High pressure protection
PC 31	Low pressure protection
PC 0A	High temperature protection of condenser
PC 06	Temperature protection of compressor discharge
PC 02	Top temperature protection of compressor
EC 52	Condenser coil temperature sensor T3 is in open circuit or has short circuited
EC 53	Outdoor room temperature sensor T4 is in open circuit or has short circuited
EC 54	Compressor discharge temperature sensor TP is in open circuit or has short circuited
EC 0d	Outdoor unit malfunction
PC 0L	Low ambient temperature protection

4.3 Operate safely with R32 refrigerant present



FLAMMABLE MATERIAL
The refrigerant used inside this unit is flammable. A coolant leak that is exposed to an external ignition source can create fire risks

1. Controls in the area

Before starting work on a system containing flammable refrigerants, carry out the appropriate safety checks to ensure that the risk of ignition is minimal. When repairing the refrigeration system, it is recommended that the following precautions be taken before starting the work.

2. Work procedures

The work must be carried out according to a controlled procedure in order to minimise the risk of flammable gases or vapours being present during the work.

3. General work area

Maintenance personnel and other people working in the area should be informed about the nature of the work to be done. It is recommended not to carry out operations in enclosed spaces. The area around the workspace must be made inaccessible. Verify that conditions within the area are safe in terms of control of flammable materials.

4. Checking the presence of refrigerant

The area must be checked using an appropriate refrigerant detector before and during the intervention so that the technician is aware of potentially flammable atmospheres. Check that the leak detection unit is suitable for use with flammable refrigerants (does not generate sparks and is adequately sealed or intrinsically safe).

5. Presence of fire extinguishers

If hot operations are to be carried out on refrigeration equipment or associated components, a suitable fire extinguisher must be kept on hand. Keep a dry-powder or CO^2 extinguisher near the loading area.

6. Absence of ignition sources

When the operations to be carried out on a refrigeration system involve exposing piping containing or having contained a flammable refrigerant, it is forbidden to use any source of ignition that could generate a risk of fire or explosion. All possible sources of ignition, including cigarette smoke, should be kept at a sufficient distance from the installation, repair, disassembly and disposal site, as flammable coolant may escape into the surrounding space during these operations. Before starting the work, the area around the appliance must be inspected to ensure that it does not present ignition or flammability hazards. “NO SMOKING” signs must be affixed.

7. Area ventilation

Before working on the system or performing hot operations, make sure the area is open or adequately ventilated. Ventilation must be constant for the entire duration of the operation. Ventilation must be capable of safely dispersing all refrigerant released and preferably expelling it outside into the atmosphere.

8. Controls on refrigeration equipment

When changing an electrical component, the new one must be suitable for the intended use and meet the correct specifications. The manufacturer's maintenance and service instructions must be followed in all circumstances. When in doubt, consult the manufacturer's technical department. The following checks are recommended for installations using flammable refrigerants:

- the charge volume must be suitable for the cubic capacity of the room in which the components containing the refrigerant are installed;
- ventilation devices and openings must open properly and not be obstructed;
- if an indirect refrigerant circuit is used, the presence of refrigerant in the secondary circuits must be checked; the equipment markings must remain visible and legible;
- markings and indications that become illegible shall be corrected;
- pipes or other components of the refrigerant circuit shall be installed in locations where exposure to potentially corrosive substances is unlikely for components containing the refrigerant, unless they are made of materials inherently resistant to corrosion or adequately protected against the risk of corrosion;

9. Controls on electrical devices

The repair and maintenance procedures for electric components must include initial safety checks and component inspection procedures. If a defect is found that may generate safety risks, the power supply to the circuit must be interrupted until the problem is satisfactorily resolved. If the problem cannot be solved immediately, but it is necessary to keep the system running, an appropriate temporary solution must be adopted. The situation should be communicated to the owner of the equipment so that all persons concerned can be duly informed.

Initial security checks:

- check that the capacitors are discharged: this procedure must be performed safely to avoid the possibility of sparks;
- check that there are no live components or wires exposed while charging, restoring or venting of the system;
- check for interruptions in the earthing.

10. Repair of sealed components

10.1 While repairing sealed components, all electrical utilities must be disconnected from the equipment before removing the sealing covers, etc. If it is absolutely necessary to have electrical power supply during the intervention, a permanent leakage detection method must be set up at the most critical point that can signal any potentially dangerous situations.

10.2 Particular attention must be paid to the following aspects to ensure that, when working on electrical components, the casing is not altered to such an extent that the required level of protection is compromised, including damage to cables, excessive number of connections, use of terminals that do not conform to original specifications, damage to seals, incorrect assembly of glands, etc.

- Check that the device is securely mounted.
- Check that the seals or sealing materials have not deteriorated to such an extent that they no longer guarantee a perfect seal keeping flammable atmospheres from entering. Spare parts must comply with the manufacturer's specifications.

NOTE: The use of silicone sealants may make some types of leak detection equipment less effective. Intrinsically safe components do not need to be isolated before work is carried out.

11. Reparation of intrinsically safe components

Before applying capacitance or permanent inductance loads to the circuit, check that this operation does not result in the permissible voltage and current values for the equipment in use being exceeded. Intrinsically safe components are the only types of components that can be operated under voltage in the presence of a flammable atmosphere. The test device shall have the correct nominal characteristics.
For component replacement use only the parts specified by the manufacturer. Other components may cause ignition of refrigerant released into the atmosphere.

12. Wiring

Check that the wiring is not exposed to wear, corrosion, excessive pressure, vibration, sharp edges or other adverse environmental influences. The control should also take into account the effects of ageing or continuous vibration from compressors, fans or other similar sources.

13. Detection of flammable refrigerants

The use of potential ignition sources for the search or detection of refrigerant leaks is prohibited under any circumstances. The use of halogen torches (or other open flame detection systems) is not permitted.

14. Leak detection methods

The following leak detection methods are considered acceptable for systems containing flammable refrigerants. Electronic leak detectors can be used to detect flammable refrigerants, but their sensitivity may not be adequate or require recalibration. (Detection equipment must be calibrated in a coolant free area.) Check that the detector is not a potential ignition source and is suitable for the refrigerant. Leak detection equipment must be configured at a percentage of the lower flammability limit (LFL) of the refrigerant and be calibrated for the refrigerant used with confirmation of the appropriate gas percentage (max. 25%). Leak detection fluids are suitable for use with most refrigerants but the use of chlorine containing detergents should be avoided, as chlorine can react with the refrigerant and corrode copper piping.
If a leak is suspected, it is recommended to remove or extinguish all open flames. If there is a coolant leak requiring brazing, all coolant must be removed from the system, or isolated (by means of shut-off valves) in a part of the system away from the leak. The system should then be purged with oxygen-free nitrogen (OFN) both before and during brazing.

15. Removal and evacuation

When the cooling circuit needs to be repaired or for other purposes, conventional procedures can be followed. However, it is important to follow recommended practices taking flammability hazards into account. The following procedure is recommended:

- extract the coolant;
- purge the circuit with inert gas;
- evacuate;
- purge again using inert gas;
- open the circuit by cutting or brazing.

The refrigerant charge can be recovered in the appropriate cylinders. The system must be purged with oxygen-free nitrogen to make the unit safe. It may be necessary to repeat this procedure several times. Do not use compressed air or oxygen for this operation.
Purging can be performed by introducing oxygen-free nitrogen into the vacuum circuit in the system and continuing to fill until operating pressure is reached, then venting into the atmosphere and recreating the vacuum. This procedure must be repeated until the refrigerant is completely removed from the system.
When the last OFN charge is introduced, the system must be vented to atmospheric pressure to allow work to be performed. This operation is absolutely essential if brazing operations are to be carried out on the piping.
Check that the output for the vacuum pump is not closed for any ignition source and that good ventilation is available.

16. Charging operations

In addition to conventional charging procedures, it is recommended to follow the ensuing guidelines:

- When using charging equipment, avoid contamination with different refrigerants. Limit the length of the pipes or lines as much as possible to reduce the amount of refrigerant they contain.
- Cylinders must be held vertically.
- Before charging the coolant into the system, make sure that it is properly earthed.
- Label the system after loading (if the label is not already present).
- Use extreme care to avoid overfilling the system.
- Before recharging the system, test the pressure using oxygen-free nitrogen. After charging, but before commissioning, check the system for leaks. Perform an additional leakage check before leaving the site.

17. Disposal

Before performing this procedure, it is essential that the technician is fully familiar with the equipment and all of its components. It is recommended to recover all refrigerants following safe procedures. Before proceeding, take an oil and coolant sample.

Before reusing the recovered refrigerant, it should be analysis if necessary. Before starting the procedure it is essential to check the availability of the power supply.

1. Familiarize yourself with the device and its operation.
2. Electrically isolate the system.
3. Before proceeding, check the following:
   - that mechanical equipment for handling refrigerant cylinders is available if necessary;
   - that the necessary personal protective equipment is available and is used;
   - that the recovery process is carried out under the constant supervision of a competent person;
   - that the recovery equipment and cylinders comply with regulations in force.
4. If possible, transfer the refrigerant to the outdoor unit using a “pump-down” procedure.
5. If it is not possible to create a vacuum, use a manifold that allows the refrigerant to be expelled from various parts of the system.
6. Before proceeding with the recovery, place the cylinder on the scales.
7. Start the recovery device and use it according to the manufacturer's instructions.
8. Do not fill the cylinders excessively. (Do not exceed 80% of the liquid volume).
9. Do not exceed the maximum working pressure of the cylinder, even temporarily.
10. After filling the cylinders correctly and completing the procedure, transfer the cylinders and equipment from the site as soon as possible and close all isolation valves on the equipment.
11. Before loading the recovered refrigerant into another refrigeration system it will be necessary to clean and check it.

18. Labelling

The appliance must be labelled to indicate that it has been decommissioned and emptied of refrigerant. The label must be dated and signed. Make sure that labels indicating flammable refrigerant content are affixed to the appliance.

19. Recovery

- When discharging refrigerant from a system for maintenance or decommissioning reasons, it is recommended to extract the refrigerant safely.
- If the refrigerant is decanted into cylinders, use only cylinders suitable for refrigerant recovery. Verify that the number of cylinders required to hold the entire system charge is available. All cylinders to be used shall be designated for the refrigerant recovered and labelled for that refrigerant (special refrigerant recovery cylinders). Cylinders shall be equipped with a safety valve and well-functioning shut-off valves.
- Empty recovery cylinders must be evacuated and, if possible, cooled before recovery.
- The recovery equipment must be in good working order, accompanied by a set of instructions at hand, and must be suitable for flammable refrigerant recovery. In addition, you will need prepare a set of well functioning calibrated scales.
- The pipes shall be complete with decoupling fittings that are leak-free and in good condition. Before using the recovery equipment, check that it is in good working order, that it has been properly maintained and that the associated electrical components are sealed to prevent risk of ignition in the event of refrigerant leakage. If in doubt, consult the manufacturer.
- The recovered refrigerant must be returned to the supplier in the correct recovery cylinders, accompanied by the relevant waste identification form. Do not mix different types of refrigerant in recovery units, especially in cylinders.
- If compressors or compressor oils need to be decommissioned, evacuate them to an acceptable level to prevent flammable refrigerant from remaining inside the lubricant. The evacuation procedure must be carried out before returning the compressor to the suppliers. To accelerate this process, only use electric heating on the compressor body. When extracting oil from the system, drain it using a safe procedure.

20. Transport, marking and storage of units

1 Transport of equipment containing flammable refrigerants

- Follow applicable regulations related to transporting these materials

2 Markings and signage on equipment

- Observe the regulations in force

3 Disposing of equipment containing flammable refrigerants

- Comply with national regulations

4 Equipment storage

- The equipment must be stored in accordance to the manufacturer's instructions.

5 Storage of packaged equipment (not sold)

- The packaging material to be stored must be protected so that any mechanical damage to the equipment contained in it cannot cause refrigerant leakage. The maximum number of appliances that can be stored in the same location is determined by local regulations.

Construction and specifications are subject to product improvement changes without notice. Please contact the sales agency or manufacturer for further details.

5 DISPOSAL

The manufacturer is registered on the National EEE Register, in compliance with implementation of Directive 2012/19/EU and pertinent national regulations on electrical and electronic equipment waste.
This Directive requires electrical and electronic equipment to be disposed of properly.
Equipment bearing the crossed-out wheelie bin symbol must be disposed of separately at the end of its lifecycle to prevent damage to human health and to the environment.

Electrical and electronic equipment must be disposed of together with all of its parts.
To dispose of "household" electrical and electronic equipment, the manufacturer recommends contacting an authorised dealer or an authorised ecological site.

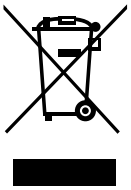
"Professional" electrical and electronic equipment must be disposed of by authorised personnel through established waste disposal authorities around the country.
In this regard, here is the definition of household WEEE and professional WEEE.

WEEE from private households: WEEE originating from private households and WEEE which comes from commercial, industrial, institutional and other sources which, because of its nature and quantity, is similar to that from private households. Subject to the nature and quantity, where the waste from EEE was likely to have been used by both a private household and users of other than private households, it will be classed as private household WEEE;

Professional WEEE: all WEEE which comes from something other than private households.
This equipment may contain:

- refrigerant gas, the entire contents of which must be recovered in suitable containers by specialised personnel with the necessary qualifications;
- lubrication oil contained in compressors and in the refrigeration circuit to be collected;
- mixtures with antifreeze in the water circuit, the contents of which are to be collected;
- mechanical and electrical parts to be separated and disposed of as authorised.

When the components to be replaced for maintenance purposes are removed or when the entire unit reaches the end of its life and needs to be removed from the installation, waste should be separated by its nature and disposed of by authorised personnel at existing collection centres.



5.1 WEEE Disposal Procedure (Italian Market)

5.2 WEEE Disposal Procedure (German Market)

5.3 WEEE Disposal Procedure (Croatian Market)

6 NOTIONS ON REFRIGERANT PIPING CONNECTION

The length of the refrigerant pipes affects performance and energy efficiency of the unit. The nominal efficiency is tested on units whose pipes are 5 meters long.
For tropical areas, the maximum length of the coolant pipe must not exceed 10 metres. Refer to the following table for specifications on maximum pipe length and height difference

		27M	35M	53M	70M
Max equivalent length	m	25	25	30	50
Max. height difference Outdoor unit / Indoor unit	m	±10	±10	±20	±25

6.1 Refrigerant piping connections

6.1.1 Cut the pipes

When preparing the coolant pipes, take great care to cut and flare them correctly. This will ensure efficient operation and reduce the need for further maintenance.
For units with R32 refrigerant, the pipe connection points must be outside the room.

1 Measure the distance between the indoor and outdoor unit.

2 Using a pipe cutter, cut the pipe to a measurement slightly longer than the measured distance.

3 Check that the pipe is cut at an exact 90° angle. Refer to the examples of incorrect cutting contained in "Fig. 14".

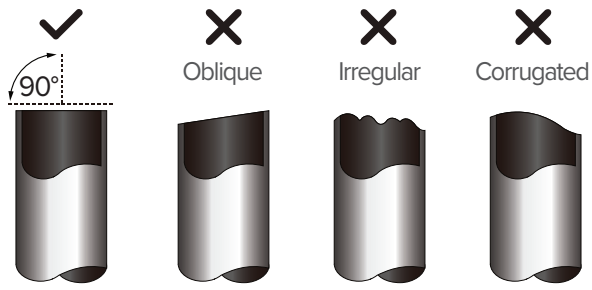


Fig. 14

CAUTION
Do not damage, tighten or deform the pipe during cutting. This would greatly reduce the heating efficiency of the unit.

6.1.2 Eliminate smudges

Deburring can make the refrigerant piping connection seal less effective. For this reason, they must be eliminated completely.

1 Keep the pipe tilted downwards to prevent debris residue from falling into the pipe.

2 Using a reamer or similar tool, remove all burrs from the cut section of the pipe.

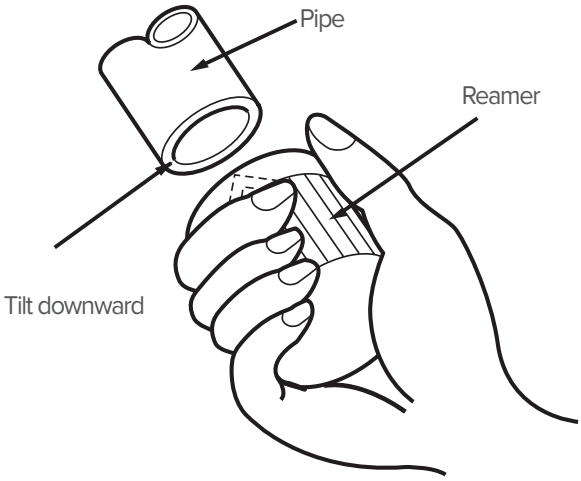


Fig. 15

CAUTION
Do not damage, tighten or deform the pipe during cutting. This would greatly reduce the heating efficiency of the unit.

6.1.3 Countersink the ends of the pipes

Correct flaring is essential to perfectly seal the gasket.

1 After removing burrs from the cut pipe, seal the ends with PVC tape to prevent foreign materials from entering.

2 Wrap the pipe in an insulating material.

3 Place a countersunk nut at each end of the pipe. Make sure that the nuts are facing in the correct direction, because after countersinking it will no longer be possible to apply them or change their direction (see "Fig. 16").

4 When you are ready to complete the flaring, remove the PVC tape from the ends of the pipe.

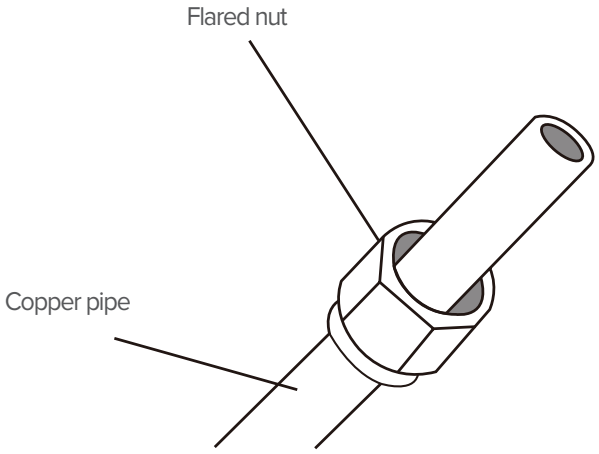


Fig. 16

5 Tighten the end of the pipe into the template of the flaring tool. The end of the pipe must extend beyond the edge of the template, according to the measurements indicated in the table below.

6 Apply the countersink screw to the template.

7 Turn the screw clockwise until the desired countersink is achieved.

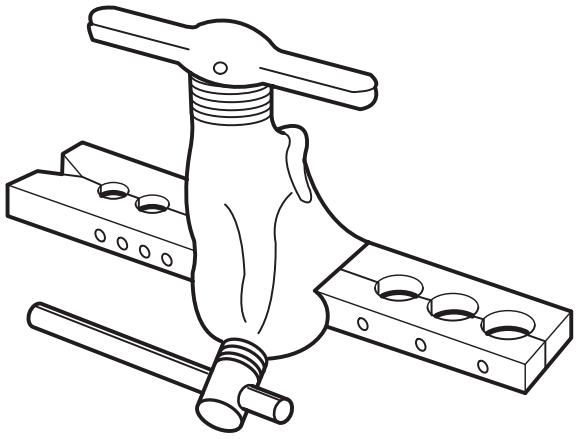


Fig. 17

PIPE PROTRUSION BEYOND THE TEMPLATE

Pipe outer diameter (mm)	A (mm)	
	Min	Max
Ø 6.35 (Ø 1/4")	0.7	1.3
Ø 9.52 (Ø 3/8")	1.0	1.6
Ø 12.7 (Ø 1/2")	1.0	1.8
Ø 15.9 (Ø 5/8")	2.0	2.2

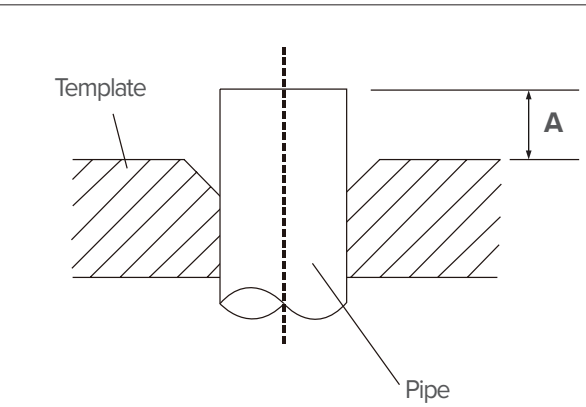


Fig. 18

8 Remove the countersunk screw and template, then check that the end of the pipe is countersunk evenly and not cracked.

6.1.4 Connect the pipes

When connecting the coolant pipes, be careful not to use excessive torque or perform other operations that may damage them. First connect the low pressure pipe and then the high pressure pipe.

WARNING
When bending the connection pipes of the refrigerant piping, observe a minimum radius of 10 cm. See "Fig. 19".

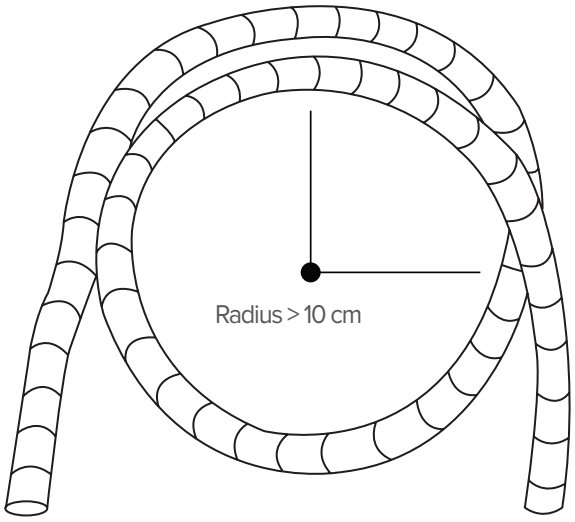


Fig. 19

TORQUES

Outer diameter of the pipe (mm)	Tightening torque (N•m)
Ø 6,35 (Ø 1/4")	14,2 - 17,2
Ø 9,52 (Ø 3/8")	32,7 - 39,9
Ø 12,7 (Ø 1/2")	49,5 - 60,3
Ø 15,9 (Ø 5/8")	61,8 - 75,4

CAUTION
DON'T USE EXCESSIVE TORQUE.
Excessive force can cause the nut to break or damage the refrigerant piping. Do not exceed the torque values shown in the table.

6.2 Connecting the pipes to the indoor unit

1 Align the centre of the two pipes to be connected.

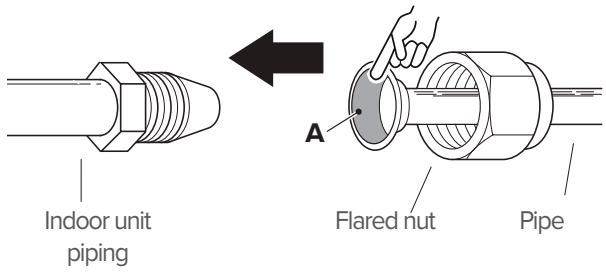


Fig. 20

2 Apply a little lubricating oil only to the inner surface of the countersink (A).

3 Screw the flared nut by hand as far as possible.

4 Then insert a key on the nut.

5 Holding the nut firmly on the unit piping, use a torque wrench to tighten the countersunk nut according to the torque values in table "TORQUES". Slightly loosen the flared nut, then tighten it again.

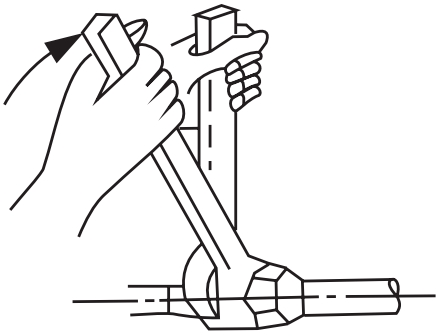


Fig. 21

6.3 Connecting the pipes to the outdoor unit

1 Unscrew the valve unit cover on the side of the outdoor unit.

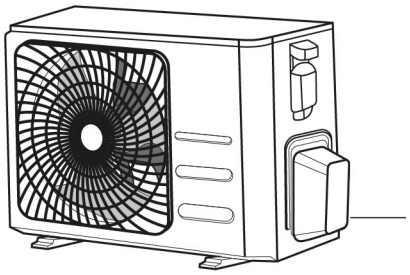


Fig. 22

2 Remove the protective caps from the valve ends.

3 Apply a little lubricating oil only to the inner surface of the countersink (B).

4 Align the end of the countersunk pipe with each valve, then tighten the countersunk nut by hand as far as possible.

5 Use a wrench to hold the valve body in place. Do not apply the key to the nut that closes the service valve (see “Fig. 23”).

USE A WRENCH TO HOLD THE MAIN BODY OF THE VALVE.
The torque applied to tighten the countersunk nut may cause other parts of the valve to detach.

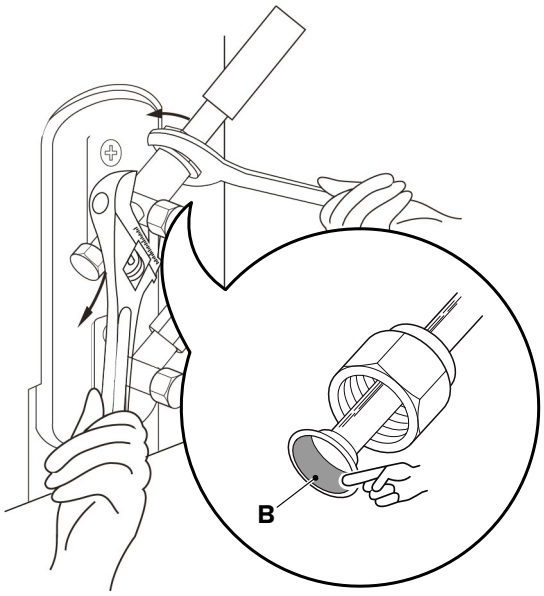


Fig. 23

6 Holding the valve body firmly, use a torque wrench to tighten the countersunk nut to the correct torque values.

7 Slightly loosen the flared nut, then tighten it again.

8 Repeat steps 3 to 7 for the other pipe.

7 TECHNICAL DATA

Technical features (SINGLESplit)

Unit		27M	35M	53M	70M
Refrigerant piping					
Liquid line	inch	Ø 1/4”	Ø 1/4”	Ø 1/4”	Ø 3/8”
	mm	Ø 6.35	Ø 6.35	Ø 6.35	Ø 9.52
Gas line	inch	Ø 3/8”	Ø 3/8”	Ø 1/2”	Ø 5/8”
	mm	Ø 9.52	Ø 9.52	Ø 12.7	Ø 15.9
Max equivalent length	m	25	25	30	50
Max. height difference outdoor unit / indoor unit	m	±10	±10	±20	±25
Refrigerant pre-charge	kg/m	0,47 / 5	0,52 / 5	1,1 / 5	1,45 / 5
GWP	tco_2	675	675	675	675
Tons of equivalent CO_2	tt	0,32	0,35	0,74	0,98
Additional refrigerant charge	g/m	12	12	12	24

Unit			27M	35M	53M	70M
Electrical connections						
Main power supply (outdoor unit)		V / Hz / p	230 / 50 / 1			
		n° cables / cross section	2 x 1.5mm² + G			2 x 2.5mm² + G
Outdoor unit --> indoor unit connection	Signal	n° cables / cross section	2 x 1,5mm²	2 x 1,5mm²	2 x 1,5mm²	2 x 2,5mm²
	Power supply	n° cables / cross section	2 x 1,5mm² + G	2 x 1,5mm² + G	2 x 1,5mm² + G	2 x 2,5mm² + G

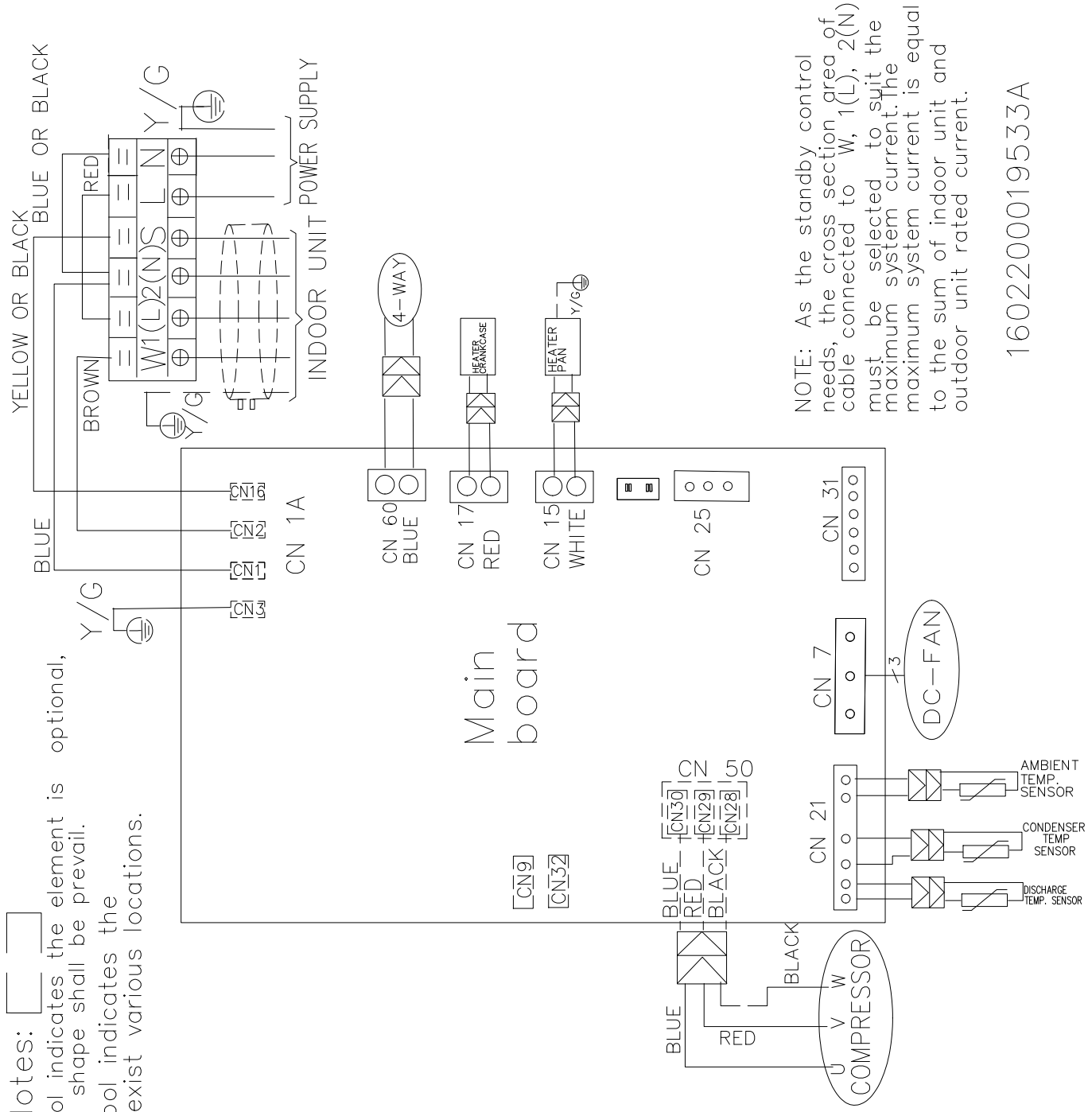
Power consumption (outdoor unit + indoor unit)				27M	35M	53M	70M
Rated power input	Cooling	Nominal (Min~Max)	W	800 (100~1.240)	1.100 (130~1580)	1.550 (560~2.050)	1.765 (420~3.200)
	Heating	Nominal (Min~Max)	W	790 (120~1.200)	1.020 (100~1.680)	1.440 (780~2.000)	2.130 (300~3.100)
Rated current input	Cooling	Nominal (Min~Max)	A	3.47 (0.4~5.2)	4.73 (0.5~6.9)	6.7 (2.4~9.0)	7.67 (1.8~13.9)
	Heating	Nominal (Min~Max)	A	3.43 (0.5~5.2)	4.42 (0.4~6.9)	6.3 (3.4~8.7)	7.7 (1.3~13.5)

NOTE:

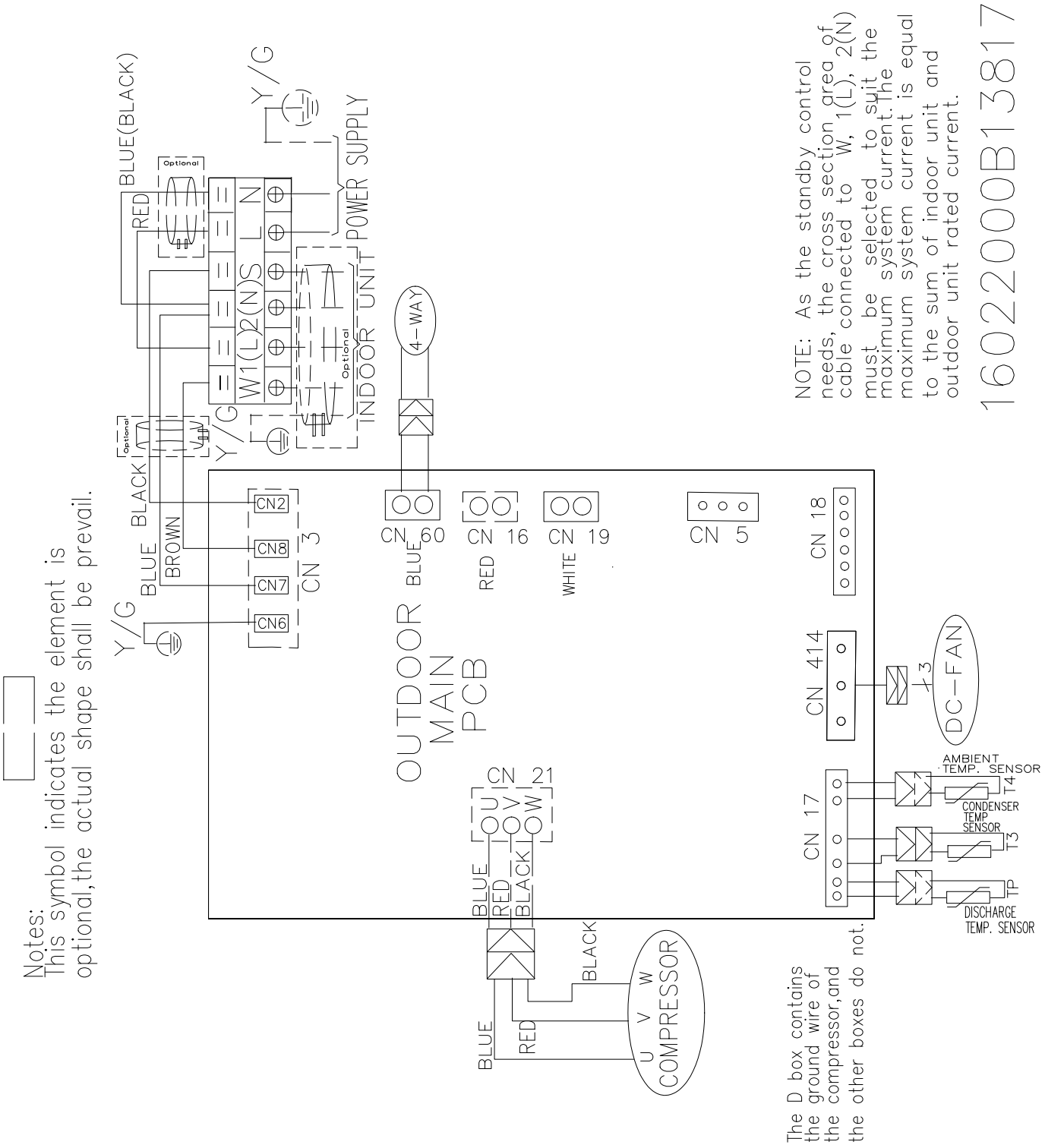
- at max. pipe length, the yield is approximately 90%
- with a height difference >5m it is advisable to insert a siphon.

8 ATTACHMENTS

8.1 Outdoor Unit Wiring Diagrams



SERIE	SIZE
MLA1-Y	27M - 53M



SERIE	SIZE
MLA1-Y	70M

8.2 Conformance Statement

DECLARATION OF CONFORMITY EU

DICHIARAZIONE DI CONFORMITÀ UE
KONFORMITÄTSERKLÄRUNG EU
DECLARATION DE CONFORMITE EU
DECLARACIÓN DE CONFORMIDAD EU

WE DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE MACHINE
DICHIARIAMO SOTTO LA NOSTRA SOLA RESPONSABILITÀ CHE LA MACCHINA
WIR ERKLÄREN EIGENVERANTWORTLICH, DASS DIE MASCHINE
NOUS DÉCLARONS SOUS NOTRE SEULE RESPONSABILITÉ QUE LA MACHINE
EL FABRICANTE DECLARA BAJO SU EXCLUSIVA RESPONSABILIDAD QUE LA MÁQUINA

CATEGORY	CONDENSING UNITS - Heat pump
CATEGORIA	MOTOCONDENSANTI - Pompa di calore
KATEGORIE	VERFLÜSSIGUNGSEINHEITEN - Wärmepumpe
CATEGORIE	GROUPES DE CONDENSATION - Pompe à chaleur
CATEGORIA	MOTOCONDENSADORAS - Bomba de calor

TYPE / TIPO / TYP / TYPE / TIPO

MLA1-Y 27M MLA1-Y 35M

- **COMPLIES WITH THE FOLLOWING EEC DIRECTIVES, INCLUDING THE MOST RECENT AMENDMENTS, AND THE RELEVANT NATIONAL HARMONISATION LEGISLATION CURRENTLY IN FORCE:**
- RISULTA IN CONFORMITÀ CON QUANTO PREVISTO DALLE SEGUENTI DIRETTIVE CEE, COMPRESE LE ULTIME MODIFICHE, E CON LA RELATIVA LEGISLAZIONE NAZIONALE DI RECEPIMENTO:
- DEN IN DEN FOLGENDEN EWG-RICHTLINIEN VORGESEHENEN VORSCHRIFTEN, EINSCHLIEßLICH DER LETZTEN ÄNDERUNGEN, SOWIE DEN ANGEWANDTEN LANDESGESETZEN ENTSPRICHT:
- EST CONFORME AUX DIRECTIVES CEE SUIVANTES, Y COMPRIS LES DERNIÈRES MODIFICATIONS, ET À LA LÉGISLATION NATIONALE D'ACCUEIL CORRESPONDANTE:
- ES CONFORME A LAS SIGUIENTES DIRECTIVAS CEE, INCLUIDAS LAS ÚLTIMAS MODIFICACIONES, Y A LA RELATIVA LEGISLACIÓN NACIONAL DE RECEPCIÓN:

☒ **2014/35/EC** **low voltage directive**
direttiva bassa tensione
Bestimmungen der Niederspannungsrichtlinie
directive basse tension
directiva de baja tensión

☒ **2014/30/UE** **electromagnetic compatibility**
compatibilità elettromagnetica
Elektromagnetische Verträglichkeit
compatibilité électromagnétique
compatibilidad electromagnética

☒ **2009/125/CE** **Ecodesign** /Progettazione ecocompatibile / Ecodesign / Éco-conception / Ecodiseño

☒ **2011/65/UE** **2015/863/UE** **RoHS**

-Unit manufactured and tested according to the followings Standards:	EN 60335-2-40 :2003+A11+A12+A1+A2+A13
-Unità costruita e collaudata in conformità alle seguenti Normative:	EN 60335-1 :2013+A11+A13+A1+A14+A2+A15 EN 62233 :2008
-Unité construite et testée en conformité avec les Réglementations suivantes	EN IEC 55014-1 :2021 EN IEC 55014-2 :2021
-Unidad construida y probada de acuerdo con las siguientes Normativas	EN IEC 61000-3-2 :2019+A1 :2021 EN 61000-3-3 :2013+A1 :2019
-Gebautes und geprüftes Gerät nach folgenden Normen	EN 61000-3-3 :2013+A1 :2021
	EN 62321-1 :2013 EN 62321-2 :2014 EN 62321-3-1 :2014
	EN 62321-4 :2014 EN 62321-5 :2014 EN 62321-6 :2015
	EN 62321-7-1 :2015 EN 62321 :2009

-Responsible to constitute the technical file is the company n°.00708410253 and registered at the Chamber of Commerce of Belluno Italy
-Responsabile a costituire il fascicolo tecnico è la società n° 00708410253 registrata presso la Camera di Commercio di Belluno Italia
-Verantwortliche für die technischen Unterlagen zusammenstellen n°.00708410253 ist das Unternehmen bei der Handelskammer von Belluno Italien registriert
-Responsable pour compiler le dossier technique est la société n°00708410253 enregistrée à la Chambre de Commerce de Belluno en Italie
-Encargado de elaborar el expediente técnico es la empresa N º 00708410253 registrada en la Cámara de Comercio de Belluno Italia

FELTRE, 08/01/2024

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SURNAME / COGNOME / ZUNAME / NOM / APELLIDOS: BELLÒ
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