

Operating and installation instructions

REMKO BL series

Inverter wall - room air conditioner in split design with quick-release coupling system

BL 264 DC, BL 354 DC





Read these operating instructions carefully before commissioning / using this device!

These instructions are an integral part of the system and must always be kept near or on the device.

Subject to modifications; No liability accepted for errors or misprints!

Translation of the original

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1 Safety and usage instructions

1.1 General safety notes

Carefully read the operating manual before commissioning the units or their components for the first time. It provides useful tips and notes such as hazard warnings to prevent injury and material damage. Failure to follow the directions in this manual can endanger persons, the environment and the equipment itself or its components and will void any claims for liability.

Store this manual and the information required for the operation of this system (e.g. refrigerant data-sheet) in the vicinity of the unit.

The refrigerant used in the system is flammable. If applicable, observe the local safety conditions.



Warning of inflammable substances!

1.2 Identification of notes

This section provides an overview of all important safety aspects for proper protection of people and safe and fault-free operation. The instructions and safety notes contained within this manual must be observed in order to prevent accidents, personal injury and material damage.

Notes attached directly to the units must be observed in their entirety and be kept in a fully legible condition.

Safety notes in this manual are indicated by symbols. Safety notes are introduced with signal words which help to highlight the magnitude of the danger in question.

DANGER!

Contact with live parts poses an immediate danger of death due to electric shock. Damage to the insulation or individual components may pose a danger of death.

DANGER!

This combination of symbol and signal word warns of a situation in which there is immediate danger, which if not avoided may be fatal or cause serious injury.

WARNING!

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may be fatal or cause serious injury.

CAUTION!

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may cause injury or material and environmental damage.

NOTICE!

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may cause material and environmental damage.



This symbol highlights useful tips and recommendations as well as information for efficient and fault-free operation.

1.3 Personnel qualifications

Personnel responsible for commissioning, operation, maintenance, inspection and installation must be able to demonstrate that they hold a qualification which proves their ability to undertake the work.

1.4 Dangers of failure to observe the safety notes

Failure to observe the safety notes may pose a risk to people, the environment and the units. Failure to observe the safety notes may void any claims for damages.

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In particular, failure to observe the safety notes may pose the following risks:

- The failure of important unit functions.
- The failure of prescribed methods of maintenance and repair.
- Danger to people on account of electrical and mechanical effects.

1.5 Safety-conscious working

The safety notes contained in this manual, the existing national regulations concerning accident prevention as well as any internal company working, operating and safety regulations must be observed.

1.6 Safety instructions for the operator

The operational safety of the units and components is only assured providing they are used as intended and in a fully assembled state.

- The units and components may only be set up, installed and maintained by qualified personnel.
- Protective covers (grills) over moving parts must not be removed from units that are in operation.
- Do not operate units or components with obvious defects or signs of damage.
- Contact with equipment parts or components can lead to burns or injury.
- The units and components must not be exposed to any mechanical load, extreme levels of humidity or extreme temperatures.
- Rooms in which refrigerant may escape shall be adequately aerated and ventilated. Otherwise, a risk of suffocation or fire exists.
- Do not leave children unsupervised when close to the system.
- Commissioning must be performed by authorised specialists exclusively. Deficient commissioning may lead to water leaks, electric shocks or fire. Commissioning must take place as described in the user manual.
- Only instruct authorised specialist personnel to perform maintenance or servicing.
- The system is filled with a flammable refrigerant. Never thaw any frozen unit components independently!
- Do not operate any further devices that produce high heat or naked flames in the same room.

- All housing parts and unit openings, e.g. air inlets and outlets, must be kept clear.
- The units must be inspected by a service technician to ensure that they are safe to use and fully functional at least once yearly. Visual inspections and cleaning may be performed by the operator when the units are disconnected from the mains.

1.7 Safety notes for installation, maintenance and inspection

- The refrigerant R32 used in the system is flammable. If applicable, observe the local safety conditions.
- Keep the cooling circuit clear of other gases and foreign substances. Only fill the cooling circuit with the refrigerant R32.
- Only use the accessories, components and appropriately marked parts provided. The use of non-standardised components may result in water leaks, electric shocks and fire.
- Only install and store the units in rooms larger than 4 m². With a failure to comply, leaks may result in the room filling with a flammable mixture!

The minimum room size of 4 m² required for installation and storage pertains to the basic fill quantity of the unit. This varies according to the installation type and total fill quantity of the system. The calculation must take place in accordance with valid DIN standards. Make sure that the installation site is suitable for safe unit operation.

- Only mount the unit components on structurally suitable brickwork.
- The units must not be installed in rooms in which further devices that produce heat are operated (heaters, open hearths).
- Make sure the installation room is sufficiently ventilated.
- Interventions in the cooling circuit are only possible after completely draining the refrigerant. Never solder or grind unit components!
- Note that refrigerant may be odourless.
- Never operate the air conditioning unit in a humid room, such as a bathroom or laundry room. If the humidity is too high, this can cause short circuits on electrical parts.
- The product must be correctly earthed at all times, otherwise it may induce electric shocks.
- Attach the condensate drain as described in the operating manual. The inadequate drainage of condensate can lead to water damage in your apartment.
- All persons who intervene in the cooling circuit must hold a valid certificate from the chamber of industry and commerce, which confirms their ability to work with refrigerant.

- Appropriate hazard prevention measures must be taken to prevent risks to people when performing installation, repair, maintenance or cleaning work on the units.
- The setup, connection and operation of the units and its components must be undertaken in accordance with the usage and operating conditions stipulated in this manual and comply with all applicable regional regulations.
- Regional regulations and laws as well as the Water Ecology Act must be observed.
- The power supply should be adapted to the requirements of the units.
- Units may only be mounted at the points provided for this purpose at the factory. The units may only be secured or mounted on stable structures, walls or floors.
- The units and components should not be operated in areas where there is a heightened risk of damage. Observe the minimum clearances.
- The units and components must be kept at an adequate distance from flammable, explosive, combustible, abrasive and dirty areas or atmospheres.
- Safety devices may not be modified or bypassed.
- The connection of the indoor unit must be established as a permanent connection; a detachable, reusable connection is not permissible.

1.8 Unauthorised modification and changes

Modifications or changes to units and components are not permitted and may cause malfunctions. Safety devices may not be modified or bypassed. Original replacement parts and accessories authorised by the manufacturer ensure safety. The use of other parts may invalidate liability for resulting consequences.

1.9 Intended use

Depending on the model, the units and the additional fittings with which they are equipped are only intended to be used as an air-conditioner for the purpose of cooling or heating the air in an enclosed space.

Any different or additional use is a non-intended use. The manufacturer/supplier assumes no liability for damages arising from a non-intended use. The user bears the sole risk in such cases. Intended use also includes working in accordance with the operating and installation instructions and complying with the maintenance requirements.

The threshold values specified in the technical data must not be exceeded.

1.10 Warranty

For warranty claims to be considered, it is essential that the ordering party or its representative complete and return the "certificate of warranty" to REMKO GmbH & Co. KG at the time when the units are purchased and commissioned.

The warranty conditions are detailed in the "General business and delivery conditions". Furthermore, only the parties to a contract can conclude special agreements beyond these conditions. In this case, contact your contractual partner in the first instance.

1.11 Transport and packaging

The devices are supplied in a sturdy shipping container. Please check the equipment immediately upon delivery and note any damage or missing parts on the delivery and inform the shipper and your contractual partner. For later complaints can not be guaranteed.

WARNING!

Plastic films and bags etc. are dangerous toys for children!

Why:

- Leave packaging material are not around.
- Packaging material may not be accessible to children!

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1.12 Environmental protection and recycling

Disposal of packaging

All products are packed for transport in environmentally friendly materials. Make a valuable contribution to reducing waste and sustaining raw materials. Only dispose of packaging at approved collection points.



Disposal of equipment and components

Only recyclable materials are used in the manufacture of the devices and components. Help protect the environment by ensuring that the devices or components (for example batteries) are not disposed in household waste, but only in accordance with local regulations and in an environmentally safe manner, e.g. using certified firms and recycling specialists or at collection points.



2 Technical data

2.1 Unit data

Series		BL 264 DC	BL 354 DC
Operating mode		Inverter wall-mounted room air conditioning unit combination for cooling and heating	
Nominal cooling output ¹⁾	kW	2.7 (0.6-3.8)	3.5 (0.8-4.1)
Energy efficiency ratio SEER ¹⁾		6.20	6.19
El. power consumption, cooling	kW	0.8 (0.1-1.6)	1.18 (0.1-1.6)
El. current consumption, cooling	A	3.8 (0.7-7.8)	5.6 (0.7-7.8)
Power consumption, annual, Q _{CE} ³⁾	kWh	148	198
Energy efficiency ratio, cooling ¹⁾		A++	
Nominal heat capacity ²⁾	kW	3.0 (0.8-4.2)	3.8 (1.0-4.2)
Energy efficiency ratio SCOP ⁴⁾		4.0	
El. power consumption, heating	kW	0.85 (0.3-1.6)	1.10 (0.3-1.6)
El. current consumption, heating	A	4.1 (1.5-8.0)	4.9 (1.5-8.0)
Power consumption, annual, Q _{HE} ³⁾	kWh	938	
Energy efficiency ratio, heating ¹⁾		A+	
Max. power consumption	kW	1900	
Max. current consumption	A	9.5	
EDP no.		1629268	1629360

¹⁾ Air inlet temp. TK 27 °C/FK 19 °C, outside temperature TK 35 °C, FK 24 °C, max. air flow volume, 5 m pipe length

²⁾ Air inlet temp. TK 20 °C, outside temperature TK 7 °C, FK 6 °C, max. air flow volume, 5 m pipe length

³⁾ The specified value is based on results from standard testing.
The actual consumption depends on the use and location of the unit

⁴⁾ The specified value is based on the average heating period

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Data specific to indoor unit		BL 264 DC IT	BL 354 DC IT
Application area (room volume), approx.	m ³	80	110
Adjustment range, room temperature	°C	+17 to +30	
Air flow volume per stage	m ³ /h	400/500/600	
Sound pressure level per stage ⁵⁾	dB (A)	29/35/42	28/31/41
Sound pressure level, silent mode	dB (A)	189	20
Sound power level max.	dB(A)	54	53
Enclosure class	IP	IPX0	
Condensate drainage connection	mm	16	
Dimensions: H/W/D	mm	292/792/201	
Weight	kg	8.5	
EDP no.		1629270	1629362

⁵⁾ At distance of 1m in the open air; specified values are maximum values

Data specific to outdoor unit		BL 264 DC AT	BL 354 DC AT
Power supply	V/Ph/ Hz	230/1~/50	
Operating range, cooling	°C	+5 to +48	
Operating range, heating ⁷⁾	°C	+5 to +32	
Air flow rate, max.	m ³ /h	600	
Enclosure class	IP	IP24	
Sound power level max.	dB (A)	61	62
Sound pressure level ⁵⁾	dB (A)	53	54
Refrigerant ⁶⁾		R32	
Refrigerant, basic quantity	kg	0.56	
CO ₂ equivalent	t	0.378	
Operating pressure, max.	kPa	4300/2500	4150/1150
Refrigerant piping, max. length	m	3, 5, 8	
Refrigerant piping, max. height difference	m	5	
Dimensions: H/W/D	mm	530/705/279	
Weight	kg	22.5	
EDP no.		1629269	1629361

⁵⁾ At distance of 1m in the open air; specified values are maximum values

⁶⁾ Contains greenhouse gas according to Kyoto protocol, GWP 2088

⁷⁾ This can be extended to -20 °C with the appropriate accessory kit

2.2 Unit dimensions

Outdoor units

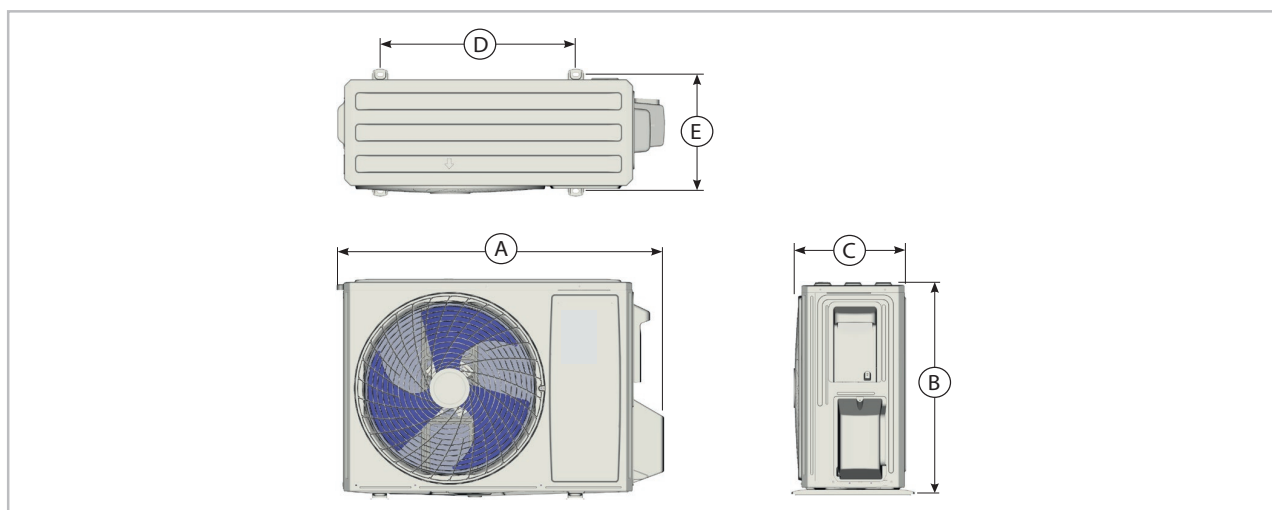


Fig. 1: Outdoor unit dimensions BL 264-354 DC AT

Measurements (mm)	A	B	C	D	E
BL 264-354 DC AT	798	535	280	480	282

Indoor units

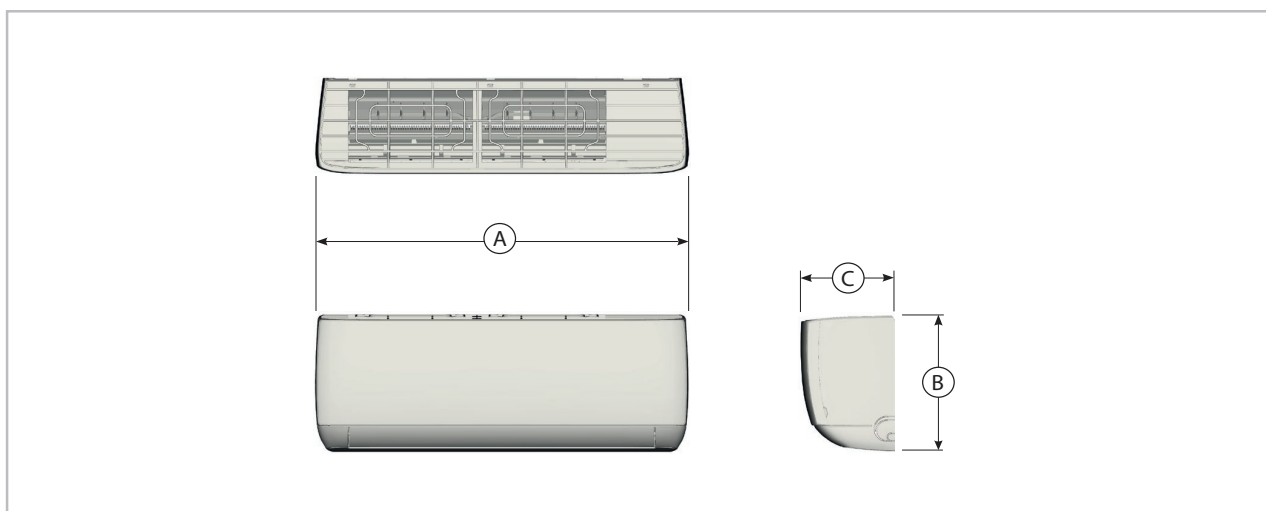


Fig. 2: Indoor unit dimensions BL 264-354 DC IT

Measurements (mm)	A	B	C
BL 264-354 DC IT	792	290	202

We reserve the right to modify the dimensions and design as part of the ongoing technical development process.

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3 Design and function

Unit description

The BL 264-354 DC room air conditioners have a REMKO BL...AT outdoor unit as well as a BL...IT indoor unit.

In cooling mode, the outdoor unit serves to output the heat extracted by the indoor unit from the room being cooled. In heating mode, the heat taken up by the outdoor unit can be discharged by the indoor unit into the room to be heated. In both operating modes, the output produced by the compressor precisely matches requirements, and thereby regulates the nominal temperature with minimal temperature deviations. This "inverter technology" results in energy savings over conventional split systems and also reduces noise emissions to a particularly low level. The outdoor unit can be installed in an outdoor area or, providing that certain requirements are met, an indoor area. The indoor unit is designed to be mounted high up on the wall, in indoor areas. It is operated by an infrared remote control.

The outdoor unit consists of a cooling cycle with compressor, fin condenser, condenser fan, reversing valve and throttle element. The outdoor unit is controlled by the regulation of the indoor unit.

The indoor unit consists of a fin evaporator, evaporator fan, controller and condensate tray.

Floor brackets, wall brackets, refrigerant piping and condensate pumps are available as accessories.

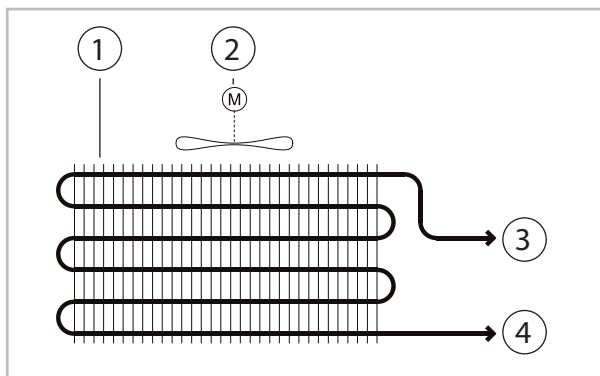


Fig. 3: Cooling cycle diagram for indoor unit

- 1: Evaporator
- 2: Evaporator fan
- 3: Suction pipe connection
- 4: Liquid pipe connection

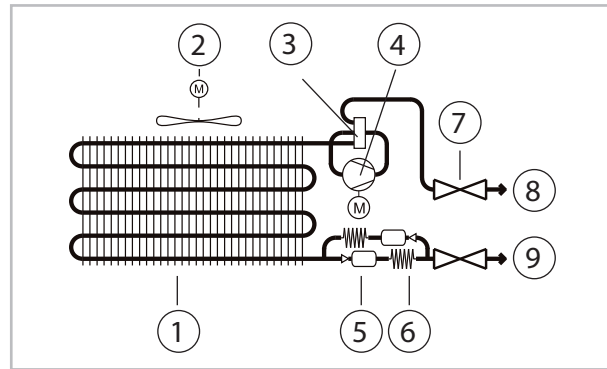


Fig. 4: Cooling cycle diagram for outdoor unit

- 1: Condenser
- 2: Condenser fan
- 3: Reversing valve
- 4: Compressor
- 5: Filter dryer
- 6: Capillary tube throttle element
- 7: Pressure gauge connection
- 8: Suction pipe connection valve
- 9: Liquid line connection valve

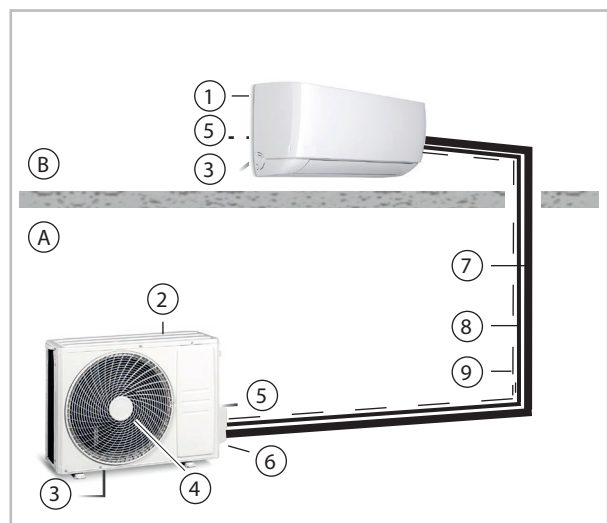


Fig. 5: System layout

- A: Outdoor area
- B: Indoor area
- 1: Indoor unit
- 2: Outdoor unit
- 3: Condensate drainage line
- 4: Condenser fan
- 5: Power supply cable
- 6: Shut-off valve
- 7: Suction pipe
- 8: Injection pipe
- 9: Control line

Refrigerant piping is used to connect the indoor unit to the outdoor unit.

4 Operation

4.1 General notes

The indoor unit is easily operated using the standard infrared remote control. The indoor unit beeps to acknowledge the correct transmission of data. If it is not possible to program the indoor unit with the remote control, then it can also be manually operated.

Manual mode

The indoor unit can also be switched on manually if the infrared remote control is lost/defective. Manual operation is intended for emergency operation and is not suitable for basic unit operation. Please replace the remote control. The key for manual activation is located below the housing cover on the right side.

The following settings apply for manual operation:

Pressing once: Automatic mode,

Pressing twice: Cooling mode,

Pressing three times: Unit OFF

Infrared remote control

The infrared remote control sends the programmed settings a distance of up to 6 m to the receiver of the indoor unit. Data will only be received correctly if the remote control is pointed at the receiver and no objects are obstructing the transmission path.

Two AAA batteries must be inserted into the remote control in preparation. To do so, remove the flap from the battery compartment and insert the batteries the correct way around (see markings). Removing the batteries causes all stored data to be lost. The remote control will then access the default settings, which you are free to customise at any time.

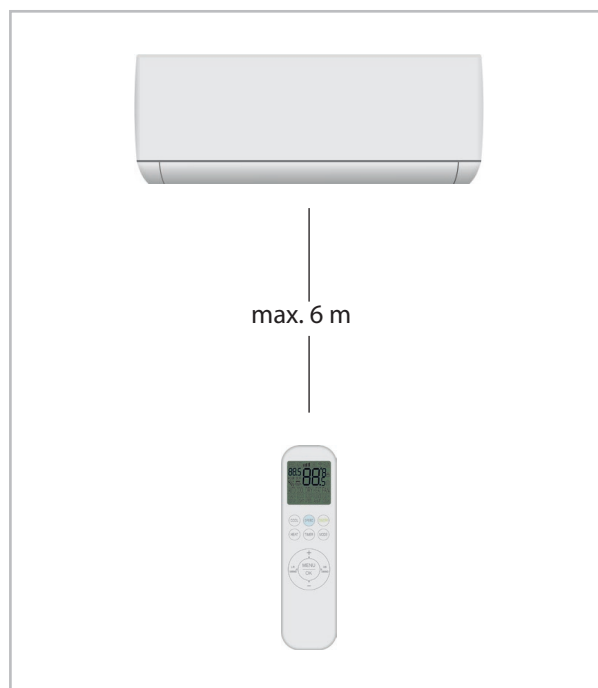


Fig. 6: Maximum distance



Alarms are indicated by a code (see chapter Troubleshooting and customer service).



! NOTICE!

Immediately replace flat batteries with a new set, otherwise there is a risk of leakage. It is recommended that the batteries are removed if the equipment is shut down for longer periods.



Help save on energy consumption in stand-by mode! If the device, system or component is not in use, we recommend disconnecting the power supply. Components with a safety function is excluded from our recommendation!

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4.2 Display on indoor unit

The display illuminates according to the settings.

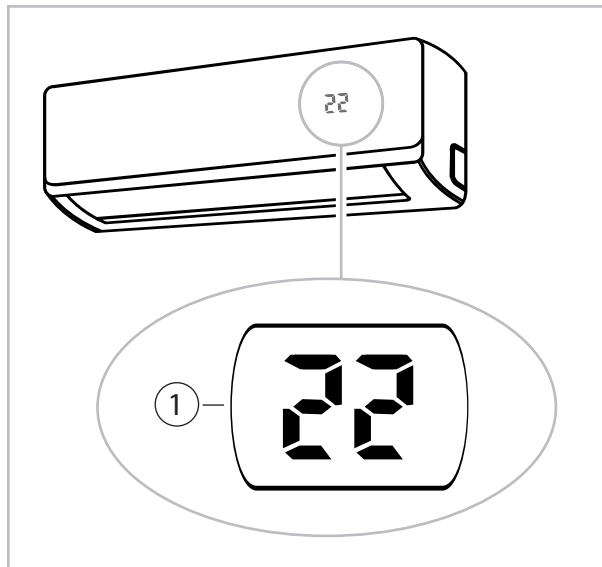


Fig. 7: Display on indoor unit

1: Display

4.3 Keys on the remote control

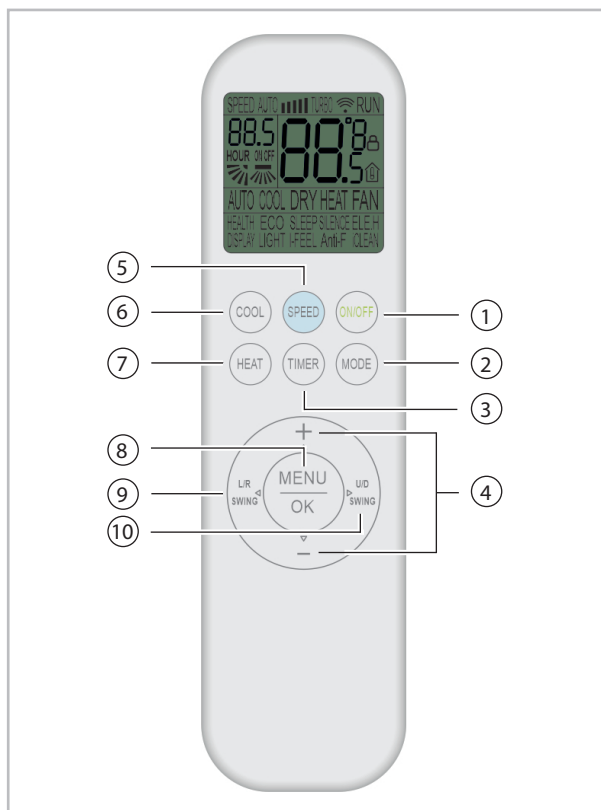


Fig. 8: Keys on the remote control

① "ON/OFF" key (ON/OFF)

This key switches the room air conditioner on and off.

② "MODE" key (operating mode)

This key is used to set the desired operating mode. The automatic, cooling, dehumidification, heating and recirculation modes are available.

③ "TIMER" key (switch-on/switch-off delay)

Pressing this key activates the switch-on/switch-off delay. The delay time can be set in 0.5 second increments (30 minutes).

④ "+" and "-" key (up arrow / down arrow)

Using these keys, the setpoint can be decreased or increased in 1 °C increments. The keys are also used to set various functions.

⑤ "SPEED" key (fan speed)

Press this key to set the desired fan speed. The low, medium, high, turbo and automatic functions are available. A high fan speed enables higher performance, quicker circulation of the room air and larger casting distances, but at the cost of noise development and air speed (draught phenomena).



In "Recirculation" mode, the "automatic" stage cannot be used.



In the dehumidification mode, the fan speed cannot be set manually.

⑥ "COOL" key (cooling pre-setting)

⑦ "HEAT" key (heating pre-setting)

This activates the self-clean function on the unit.

⑧ "MENU / OK" key (additional functions / confirm)

After pressing this key, an additional function can be activated using the "+" (up arrow), "-" (down arrow) "L/R SWING" (left arrow) and "U/D SWING" (right arrow) keys. The selected function flashes in the display and can be activated or deactivated by pressing the "OK" key. The following functions are available:

HEALT

Using this key, the REMKO BioClean function (ionisation) can be activated which contributes to improving the room air quality.

ECO (energy saving mode)

After activation of energy saving mode, the controller lowers the compressor frequency to a minimum in order to save energy. Energy saving mode is automatically deactivated after 8 hours and is only available in cooling mode.

SLEEP

Pressing this key will automatically increase or decrease the target temperature by 1 °C within an hour in cooling mode and heating mode respectively. Press this key to maintain the most convenient temperature and save energy.

This function is only available in "Cooling", "Heating" and "Auto" modes. The unit goes back into its original state after 10 hours.

SILENCE (quiet operation)

Activates/deactivates the silent mode.

In silent unit mode, the compressor runs at a lower frequency, and the indoor unit fan rotates at a slower speed. This provides particularly quiet unit operation.

ELE.H

DISPLAY (display switch-off)

Activating this function switches the display indicators on the indoor unit.

LIGHT

This function is not available.

ELE.H

This function is not available.

I-FEEL

This key can be used to activate/deactivate the I-FEEL function. In this mode, the room temperature is measured on the remote control. This sends a signal to the indoor unit every 3 minutes. If the remote control does not send a signal to the indoor unit for 7 minutes, this mode is automatically deactivated.

Anti-F

This function is not available.

iCLEAN (self-cleaning)

Due to the formation of condensate on the heat exchanger and the residual moisture that remains, bacteria can multiply quickly. In regular normal operation, the heat exchanger is dried by the air volume flow.

This drying process can also be started manually with the "Clean" function (for example, if the unit is not in regular use). In cooling or dehumidification mode, the self-cleaning function can be activated.

The unit switches off automatically after cleaning (30 minutes). "CL" appears in the display indicator. Selection of the self-cleaning function is only possible in standby mode.

⑨ "L/R SWING" key

This function is not available.

⑩ "U/D SWING" key

The oscillation of the horizontal fins can be set using this key. This function can be switched on and off by pressing the key.

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Indicators on the LCD

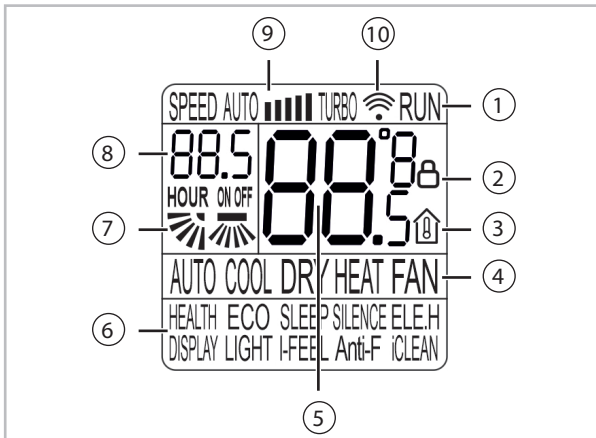


Fig. 9: Indicators on the LCD

① RUN

This symbol appears when the "ON/OFF" key is pressed and the system is activated. Pressing this key again causes the indicator to go out.

② **Key lock** Is displayed if key lock is activated.

③ I-FEEL

Is displayed when the temperature probe on the infrared remote control is activated.

④ Operating mode indicator

Shows the current operating modes, including automatic (AUTO), cooling (COOL), dehumidification (DRY), heating (HEAT), fan (FAN) and back to automatic (AUTO) mode.

⑤ Temperature indicators

Shows the set temperature setpoint. If fan (FAN) mode is set, no temperature is displayed.

⑥ Additional function indicators

Shows the activated additional functions (see keys on the remote control).

⑦ Swing fins

Shows the position of the horizontal and vertical swing fins.

⑧ Timer function

Displays when switch-on delay ON is active and when switch-off delay OFF is active. Furthermore, a set time is displayed in 0.5 second increments.

⑨ Fan speed

Shows the set fan mode and the current fan stage (see keys on the remote control).

⑩ Data transfer

Flashes when data is sent from the infrared remote control to the indoor unit.

5 Installation instructions for qualified personnel

5.1 Important notes prior to installation

- Transport the unit in its original packaging as close as possible to the installation location. You avoid transport damage by doing so.
- Check the contents of the packaging for completeness and check the unit for visible transport damage. Report any damage immediately to your contractual partner and the shipping company.
- Lift the unit on the corners and not on the refrigerant or condensate drainage connections.
- The refrigerant piping (liquid and suction pipe), valves and connections must be insulated to make them vapour diffusion proof. If necessary also insulate the condensate drainage line.
- Select an installation location which allows air to freely flow through the air inlet and outlet (see section "Minimum clearances").
- Do not install the unit in the immediate vicinity of devices which generate intensive thermal radiation. Installation in the vicinity of thermal radiation reduces the unit output.
- Only open the shut-off valves on the refrigerant piping after installation is complete.
- Seal off open refrigerant piping with suitable caps or adhesive strips to prevent the infiltration of moisture and never kink or compress the refrigerant piping.
- Avoid unnecessary bends. This minimises the pressure loss in the refrigerant piping and ensures that the compressor oil can flow back without obstruction.
- Perform all electrical wiring in accordance with applicable DIN and VDE standards.
- Ensure the electrical cables are properly connected to the terminals, otherwise there is a risk of fire.
- Only use the fasteners contained in the scope of delivery with the units.
- Use four supports and the associated hooks to attach the ceiling cassette (only applies to ceiling cassettes).
- Use the insulated condensate hose in the scope of delivery as a junction piece to the continuing condensate drain. Secure the condensate drain with the supplied clamps.

5.2 Wall openings

- A wall opening of at least 65 mm diameter and 10mm incline from the inside to the outside must be created.
- To prevent damage to the lines, the interior of the wall opening should be padded or, for example, lined with PVC pipe (see figure).
- After installation has been completed, use a suitable sealing compound to close off the wall opening, taking account of fire protection regulations (provided by the customer). Do not use cement or lime containing substances!

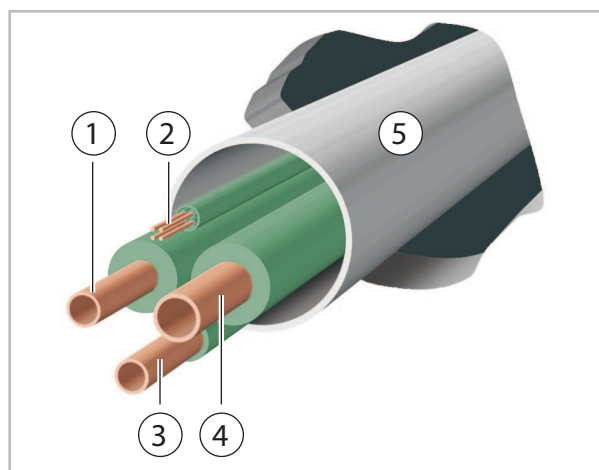


Fig. 10: Wall opening

- 1: Liquid line
- 2: Control line
- 3: Condensate drainage line
- 4: Suction pipe
- 5: PVC pipe

5.3 Installation materials

The indoor unit is attached to the wall by a wall bracket and 4 screws (to be provided by the customer).

The outdoor unit is attached by 4 screws and a wall bracket to the wall or fixed by a floor bracket to the ground.

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5.4 Selection of installation location

Indoor unit

The indoor unit is designed for horizontal wall installation above doors. However, it can also be used in the upper wall area (min. 1.75m above the floor).

Outdoor unit

The outdoor unit is designed for horizontal installation on a base in outdoor areas. The installation site must be level, flat and firm. The unit should also be secured to prevent it from tipping over. The outdoor unit can be set up outside as well as inside a building. For external installation, please observe the following notes to protect the unit from the influence of the weather.

Rain

For floor or roof set-up, the unit should be installed with at least 10cm ground clearance. A floor bracket is available as an optional accessory.

Sun

The condenser on the outdoor unit emits heat. Exposure to sunlight further increases the temperature of the fins and reduces the heat released by the finned heat exchanger. The outdoor unit should be installed on to the north side of the building whenever possible. If necessary, take measures to provide sufficient shade (responsibility of customer). One possible solution is to build a small roofed area over the unit. These measures should not affect the flow of warm outlet air.

Wind

If the unit is being installed in windy areas, ensure that the warm outlet air is discharged in the prevailing wind direction. If this is not possible, it may be necessary to install a windbreak (to be provided by the customer). Ensure that the windbreak does not adversely affect the air intake to the unit. An additional stabilization is recommended. This can, for example, be realized with ropes or other structures.

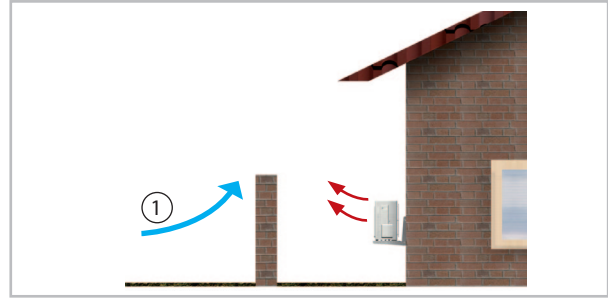


Fig. 11: Windbreak

1: Wind

Snow

The unit should be wall-mounted in areas of heavy snowfall. Installation should be at least 20cm above the expected level of snow to prevent snow from entering the outdoor unit. An optional wall bracket is available as an accessory.

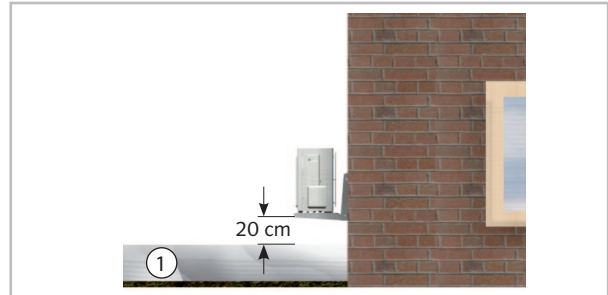


Fig. 12: Minimum clearance to snow

1: Snow

Installation inside buildings

- Ensure that heat can dissipate adequately when placing the outdoor unit in cellars, lofts, adjoining rooms or halls (Fig. 13).
- Install an additional fan with a rated flow comparative to that of the outdoor unit being installed in the room and which can compensate any additional pressure loss in ventilation ducts (Fig. 13).
- Comply with any regulations and conditions affecting the statics of the building. If necessary, fit acoustic installation.

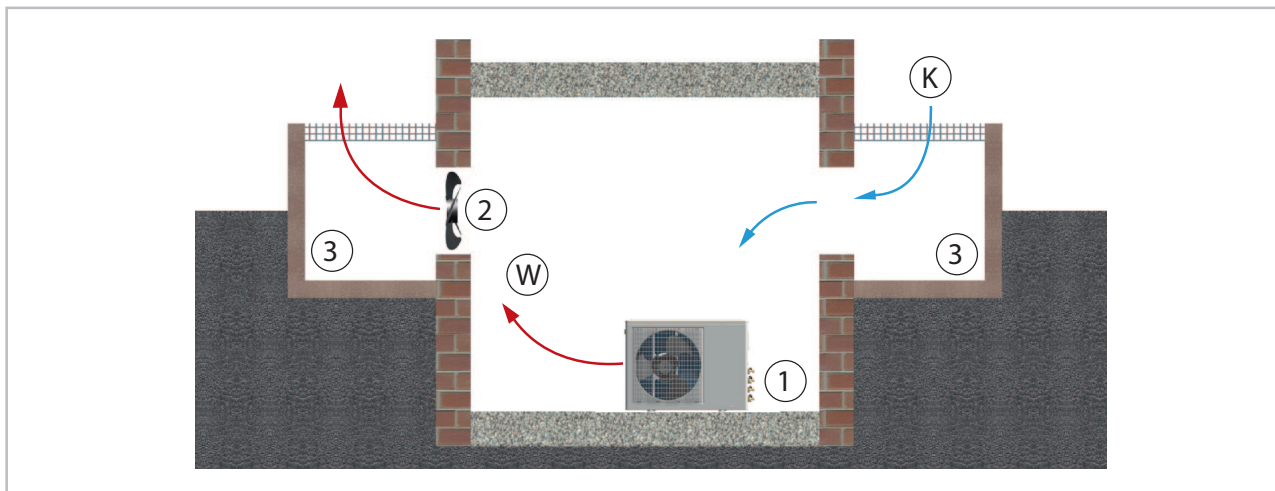


Fig. 13: Installation inside buildings

K: Cold fresh air / W: Warm air
1: Outdoor unit / 2: Additional fan

3: Air shaft

5.5 Minimum clearances

Observe the minimum clearances to allow access for maintenance and repair work and facilitate optimum air distribution.

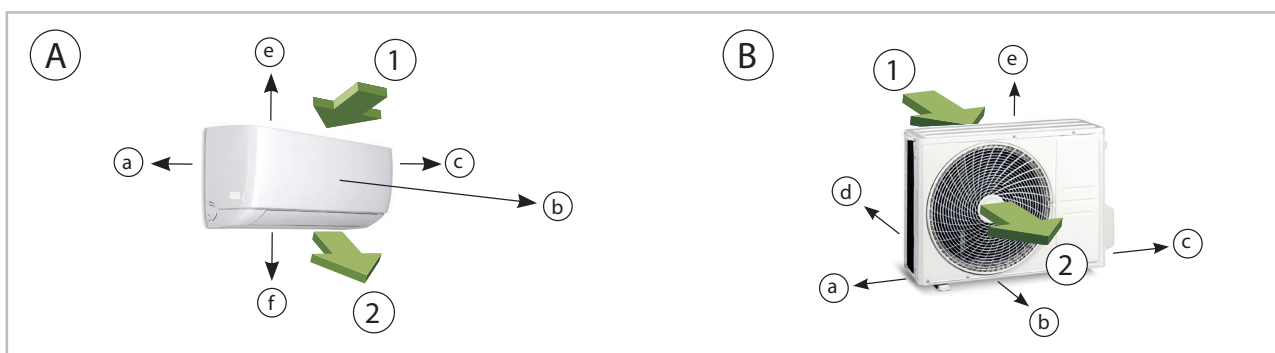


Fig. 14: Minimum clearances of the indoor unit and outdoor unit

A: Indoor unit
B: Outdoor unit

1: Air inlet
2: Air outlet

	Indoor units	Outdoor units
Measurements (mm)	BL 264-354 DC IT	BL 264-354 DC AT
a	120	300
b	1500	2000
c	120	600
d	-	300
e	120	600
f	200	-

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5.6 Connection variants for the indoor unit

The following connection variants can be used for the refrigerant, condensate and control lines.

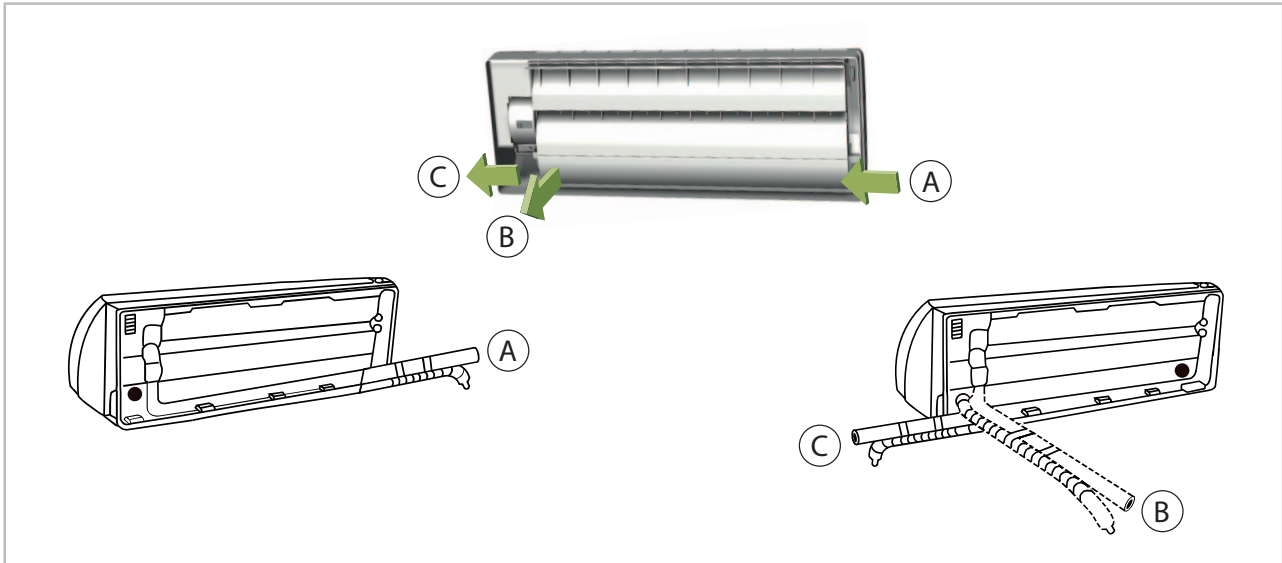


Fig. 15: Connection variant (view from the rear)

A: Infeed of the refrigerant piping at the wall, left
B: Outlet through the wall, right

C: Outlet on the wall, right

5.7 Wall bracket for the indoor unit

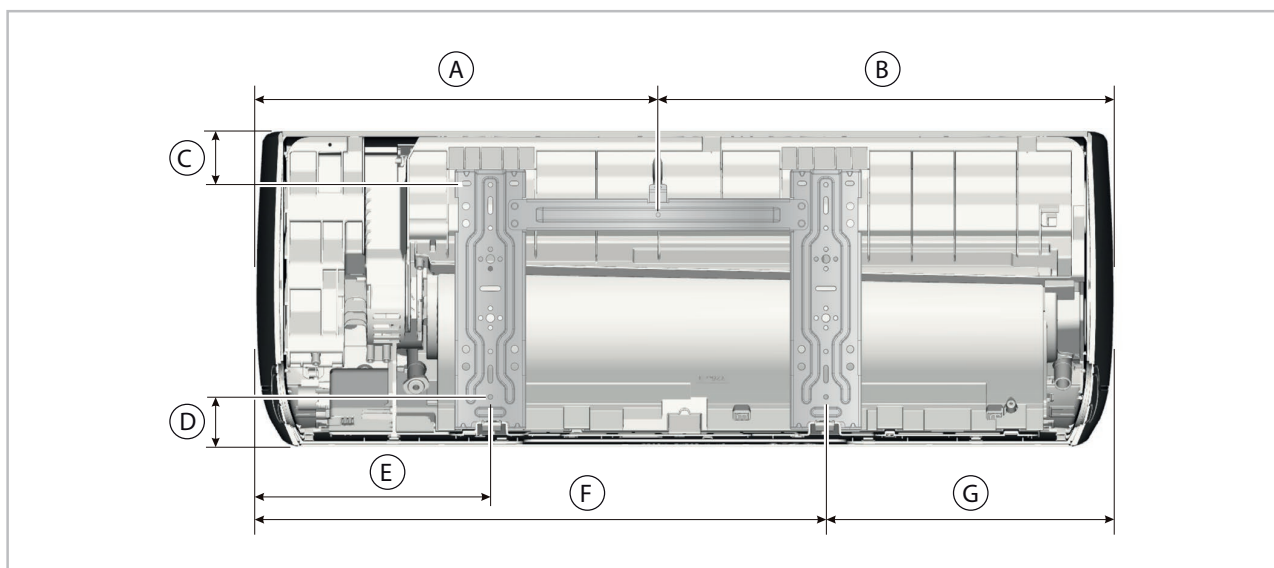


Fig. 16: Mounting points for the wall bracket BL 264-354 DC IT (rear view, all dimensions in mm)

Unit type / dimensions	A	B	C	D	E	F	G
BL 264-354 DC IT	371	421	50	45	216	526	266

(All dimensions in mm)

The diameter of the pipe break-through is 65 mm for all unit types.

The wall bracket for the units must be attached with suitable screws and anchors.

6 Installation

6.1 Installation of the indoor unit

The indoor unit is attached by means of a wall bracket, taking into consideration the air outlet side located in the lower part.

1. ➤ Mark the mounting points on the structurally permissible building sections according to the dimensions of the wall bracket.
2. ➤ If necessary, remove the break out opening of the housing.
3. ➤ Connect the refrigerant piping, electrical cables and condensate drainage line to the indoor unit as described below.
4. ➤ Hang the indoor unit onto the wall bracket by tilting it back slightly and by pressing the bottom part of the unit against the bracket.
5. ➤ Check again that the unit is level. (Fig. 17)

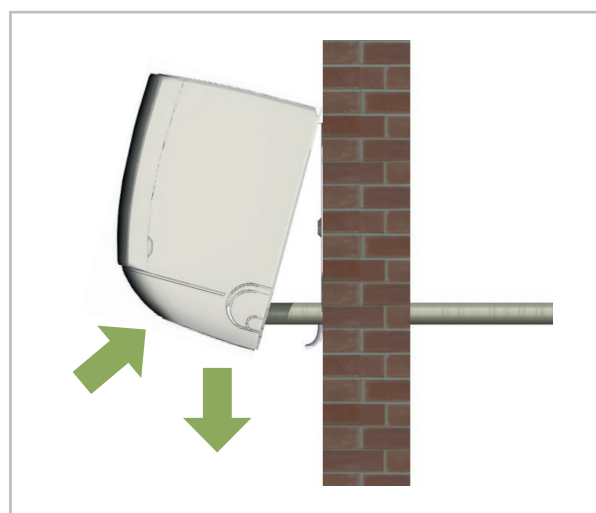


Fig. 17: Horizontal positioning

The wall bracket for the units must be attached with suitable screws and anchors.

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6.2 Connection of refrigerant piping

The refrigerant pipes should be connected by the customer on the right-hand side of the outdoor component.

1. ➤ Use the wall or floor brackets to fit the outdoor unit against structural parts approved to support the static load (refer to the installation instructions for the brackets).
2. ➤ Ensure that structure-borne sound is not transferred to parts of the building. Use vibration dampers to reduce the effects of structure-borne sound!

! NOTICE!

Installation should only be performed by authorised specialists.

⚠ CAUTION!

Both units are pre-filled with refrigerant at the factory. Suitable protective clothing must be worn during installation.

! NOTICE!

Use only tools which are approved for use in an HVAC environment.

The refrigerant piping on the indoor unit are extended at the factory so that the quick-release couplings can be located outside the building if they are fed through the masonry.

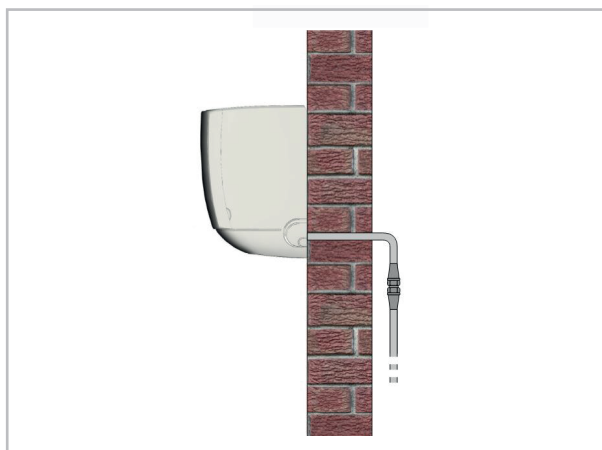


Fig. 18: Placing of the quick-release couplings

6.3 Connection of quick-release couplings

The refrigerant pipes should be connected by the customer on the right-hand side of the outdoor component. The pre-filled refrigerant piping are connected to the outdoor unit by means of the quick-connector system. Once installed, the connections should be insulated to make them vapour diffusion proof. The following instructions describe the installation of the refrigerant piping for the indoor unit on the outdoor unit.



Please note that the following figures are only schematic representations. The actual appearance of the units may vary from those shown.

1. ➤ Remove the pre-installed plastic cover from the outdoor unit (Fig. 19).



Fig. 19: Remove the plastic cover

2. ➤ Remove the green/black protective caps from the quick-connectors on the outdoor component, as well as the flexible refrigerant pipes on the indoor unit (Fig. 20 and Fig. 21).



Fig. 20: Remove protective caps

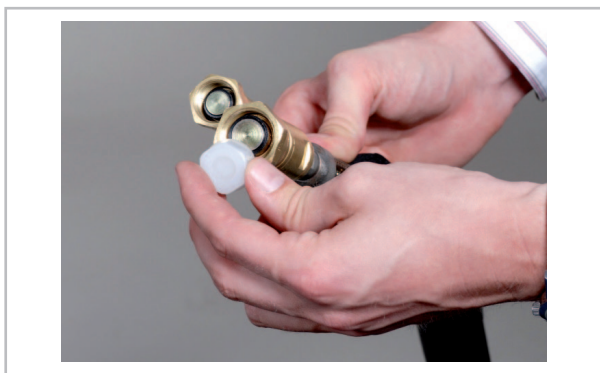


Fig. 21: Remove protective caps

3. ➤ Before connecting the refrigerant pipes, ensure that the quick-release couplings are situated in front of one another (Fig. 22).



Fig. 22: Position of the quick-release couplings

4. ➤ First connect and hand-tighten the refrigerant piping to ensure it is correctly seated.
5. ➤ Then install the suction pipe with the largest diameter.



Fig. 23: Installation on the indoor unit

6. ➤ Then tighten the fittings with 2 appropriately-sized open-ended spanners. Use one spanner to counter the force when tightening the fitting (Fig. 24).

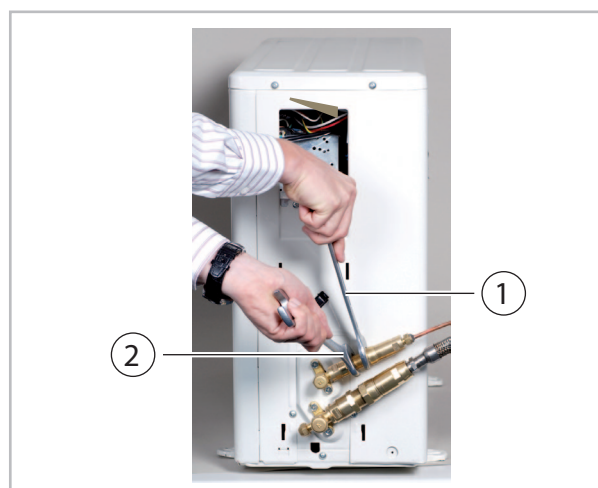


Fig. 24: Tightening the fitting

- 1: Tighten with the first open-ended spanner
- 2: Counter with the second open-ended spanner
7. ➤ Open the stop cocks with an Allen key before switch the system on!

Pipe dimension in inches	Tightening torque in Nm
1/4"	15-20
3/8"	33-40

⚠ CAUTION!

Only open the stop cocks following complete installation of the quick-release couplings and **before switching the system on!**

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6.4 Leak testing

Once all the connections have been made, the pressure gauge station is attached to the Schrader valve as follows (if fitted):

red = small valve = high pressure

blue = large valve = suction pressure

Leak testing involves spraying a leak detection spray onto the connections. If bubbles are visible, the connections have not been made properly. Then tighten the screw connection.

! NOTICE!

The escape of refrigerant contributes to climatic change. In the event of escape, refrigerant with a low greenhouse potential has a lesser impact on global warming than those with a high greenhouse potential. This device contains refrigerant with a greenhouse potential of 2088. That means the escape of 1 kg of this refrigerant has an effect on global warming that is 2088 times greater than 1 kg CO₂, based on 100 years. Do not conduct any work on the refrigerant circuit or dismantle the device - always enlist the help of qualified experts.

7 Condensate drainage connection and safe drainage

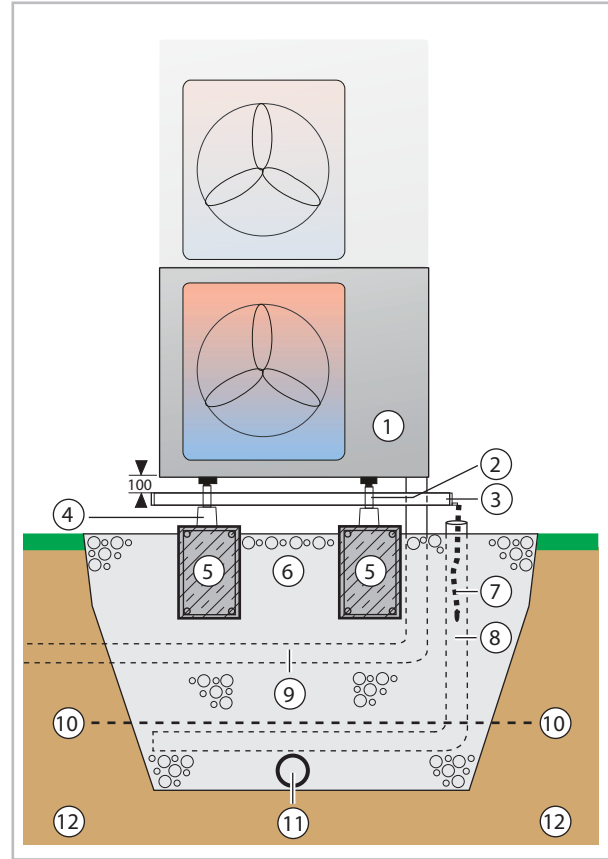


Fig. 25: Condensate drainage, seepage of condensate and strip foundation (cross-section)

- 1: Outdoor unit
- 2: Leg
- 3: Condensate collection tray
- 4: Floor bracket
- 5: Reinforced strip foundation
H x W x D = 300 x 200 x 800 mm
- 6: Gravel layer for seepage
- 7: Condensate drainage heating
- 8: Drainage channel
- 9: Conduit for refrigerant piping and electrical
connecting line (temperature-resistant up to at
least 60°C)
- 10: Frost line
- 11: Drainage pipe
- 12: Soil

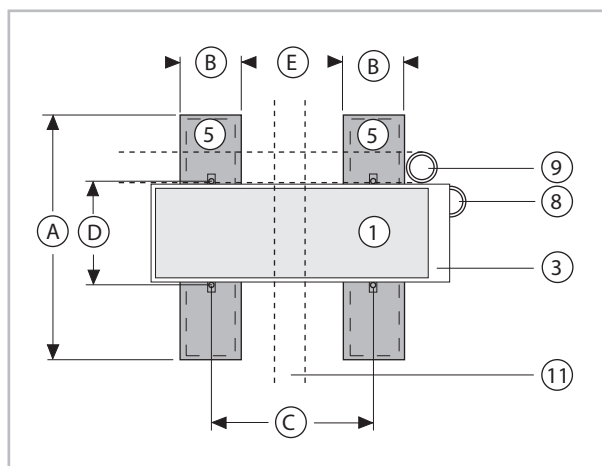


Fig. 26: Dimensions for the strip foundation (bird's eye view)

For the designations of 1,3,5,8,9 and 11, please refer to the legend for Fig. 25

Dimensioning of the strip foundation

Dimension	Value in mm
A	800
B	200
C	480
D	282
E	280

Condensate drainage connection

If the temperature falls below the dew point, condensation will form on the finned condenser during **heating mode**.

A condensate tray should be installed on the underside of the unit to drain any condensate.

- The condensate drainage line should have an incline of min. 2% and is the responsibility of the customer. If necessary, fit vapour-diffusion-proof insulation.
- When operating the unit at outside temperatures below 4 °C, ensure the condensate drainage line is laid to protect it against frost. The lower part of the housing and condensate tray is also to be kept frost free in order to ensure permanent draining of the condensate. If necessary, fit a pipe heater.
- Following installation, check that the condensate run off is unobstructed and ensure that the line is durably leak tight.

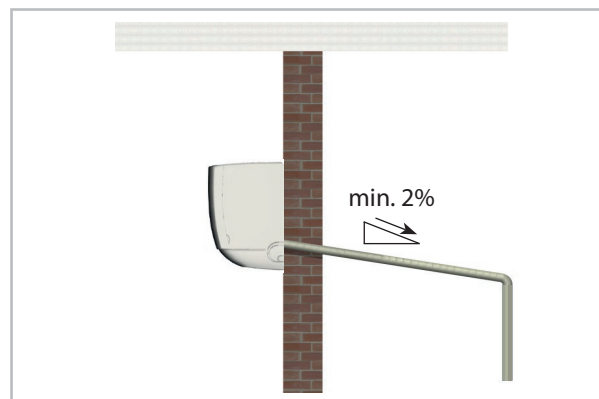


Fig. 27: Condensate drainage connection - Indoor unit

Safe drainage in the event of leakages

The REMKO oil separator OA 2.2 fulfils the following list of requirements from regional regulations and laws.

! NOTICE!

Local regulations or environmental laws, for example the German Water Resource Law (WHG), can require suitable precautions to protect against uncontrolled draining in case of leakage to provide for safe disposal of escaping refrigerator oil or hazardous media.

! NOTICE!

If condensate is removed via a duct in accordance with DIN EN 1717, ensure that any microbiological contamination present on the wastewater side (bacteria, fungi, viruses) cannot enter the unit connected to it.

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8 Electrical wiring

8.1 General Information

A protected power supply cable is to be connected to the outdoor unit and a five-core control line to the indoor unit respectively.

DANGER!

All electrical installation work is to be performed by specialist companies. Disconnect the power supply when connecting the electrical terminals.

WARNING!

All electric lines are in accordance VDE regulations to dimension and to lay.

NOTICE!

The electrical connection of the units must be carried out in accordance with VDE regulations. We recommend using an FI circuit breaker that is sensitive to all currents, as increased leakage currents can occur.



We recommend using shielded wires for the control lines.



Check all plugged and clamped terminals to verify that they are seated correctly and make permanent contact. Tighten as required.

8.2 Connecting the indoor unit

- We recommend that a mains/repair switch be installed near the outdoor unit.
- The terminal blocks for making the connections are located at the rear of the unit. When the unit is installed, measurements can be made from the front by removing the cover.
- If an optional condensate pump is used as an accessory in conjunction with the unit, it may be necessary to install an additional relay with a higher contact rating after the switch-off contact on the pump to switch off the compressor.

The control line to the outdoor unit contains a data cable which is used to establish communication between the indoor unit and the outdoor unit. This is used for controlling the cooling and heating capacity and for forwarding alarm codes to the indoor unit. If the length is insufficient, you can extend the control lines on the indoor unit.

Make the connection as follows:

1. ➤ Open the panel of the unit.
2. ➤ Remove the covers on the right-hand side (Fig. 28).
3. ➤ Feed the control line through the opening on the rear of the unit in the connection area.
4. ➤ Connect the control line to the terminals (Fig. 28).
5. ➤ Re-assemble the unit.

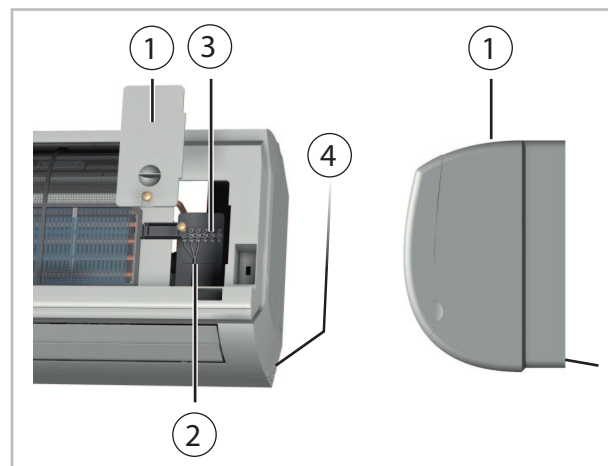


Fig. 28: Connecting the indoor unit

- 1: Cover
- 2: Strain relief
- 3: Terminal block for control line
- 4: Control line from outdoor unit

8.3 Outdoor unit connection

Proceed as follows to connect the line:

1. ➤ Remove the side-panel cover.
2. ➤ Choose the cable cross-section in accordance with the relevant specifications.
3. ➤ Connect the lines as shown on the electrical connection diagram.

4. ➤ Fix the line in the strain relief and re-assemble the unit.

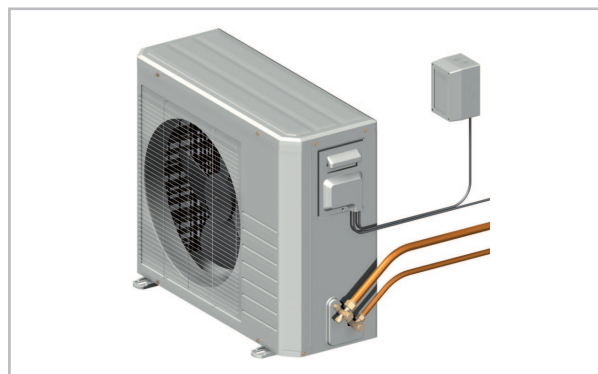


Fig. 29: Outdoor unit connection

8.4 Electrical wiring diagram

Connection BL 264-354 DC

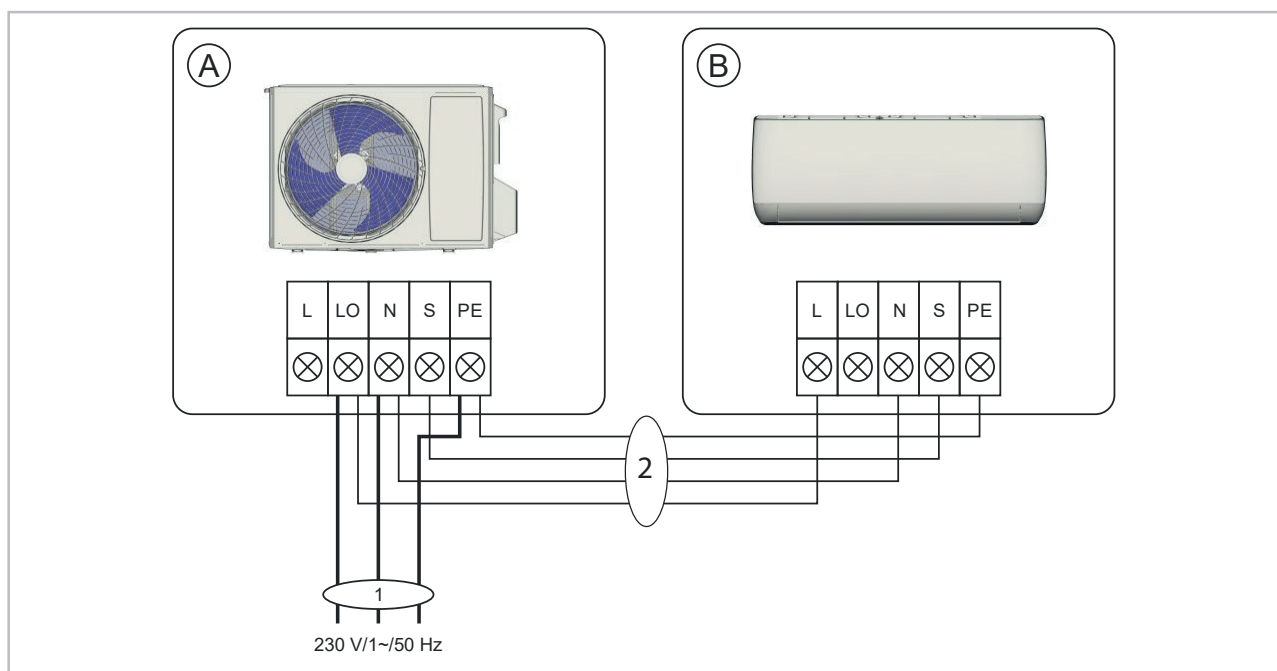


Fig. 30: Electrical wiring diagram

A: Outdoor unit / B: Indoor unit

1: Power supply cable / 2: Communication line

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Connection of optional condensate pump KP 6/KP 8

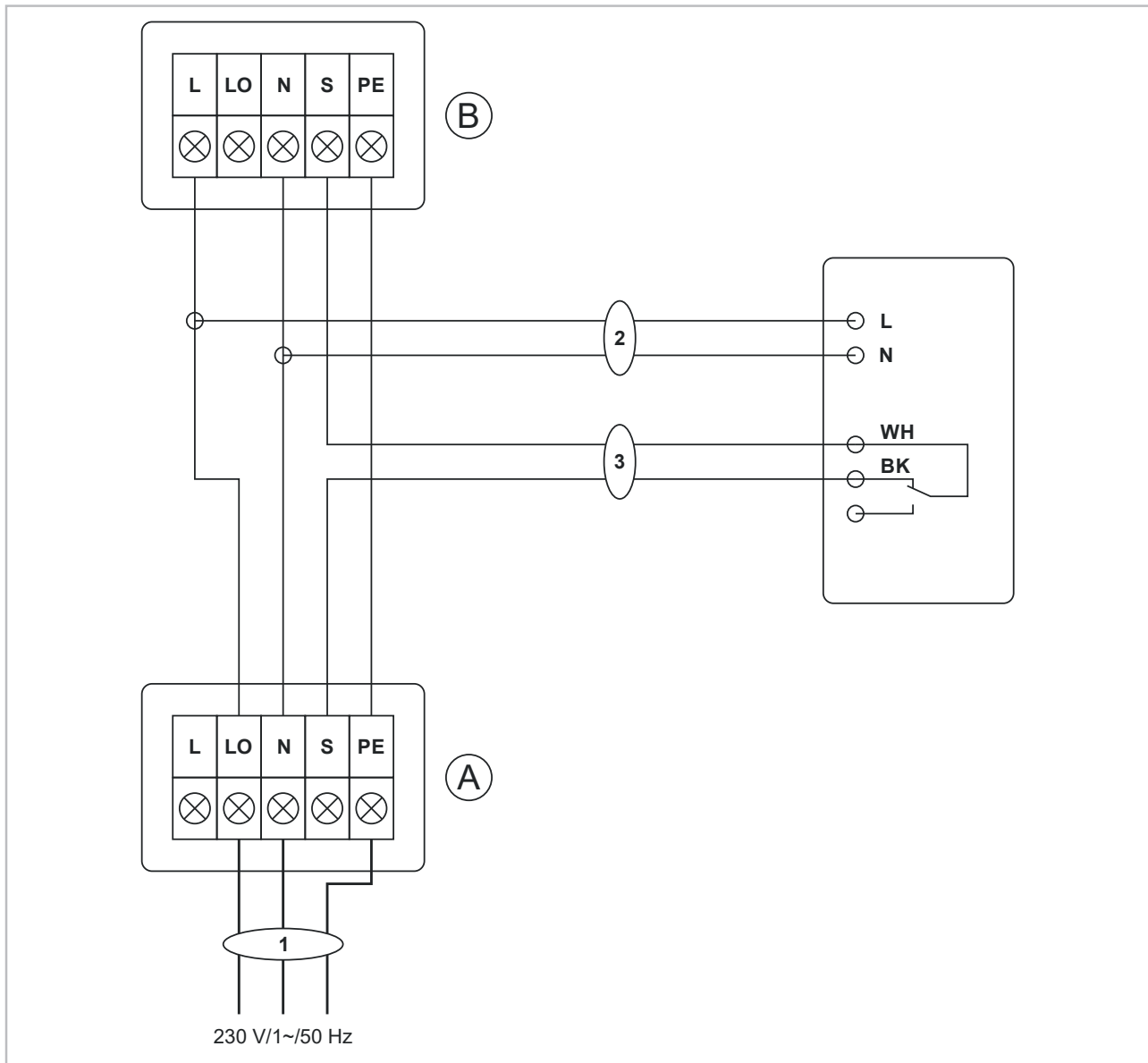


Fig. 31: Electrical wiring diagram

- A: Outdoor unit
- B: Indoor unit
- C: KP6/KP8 condensate pump
- 1: Power supply cable

- 2: Condensate pump supply
- 3: Condensate pump fault contact
- BK: black
- WH: white

8.5 Electrical drawings

Indoor units BL 264-354 DC IT

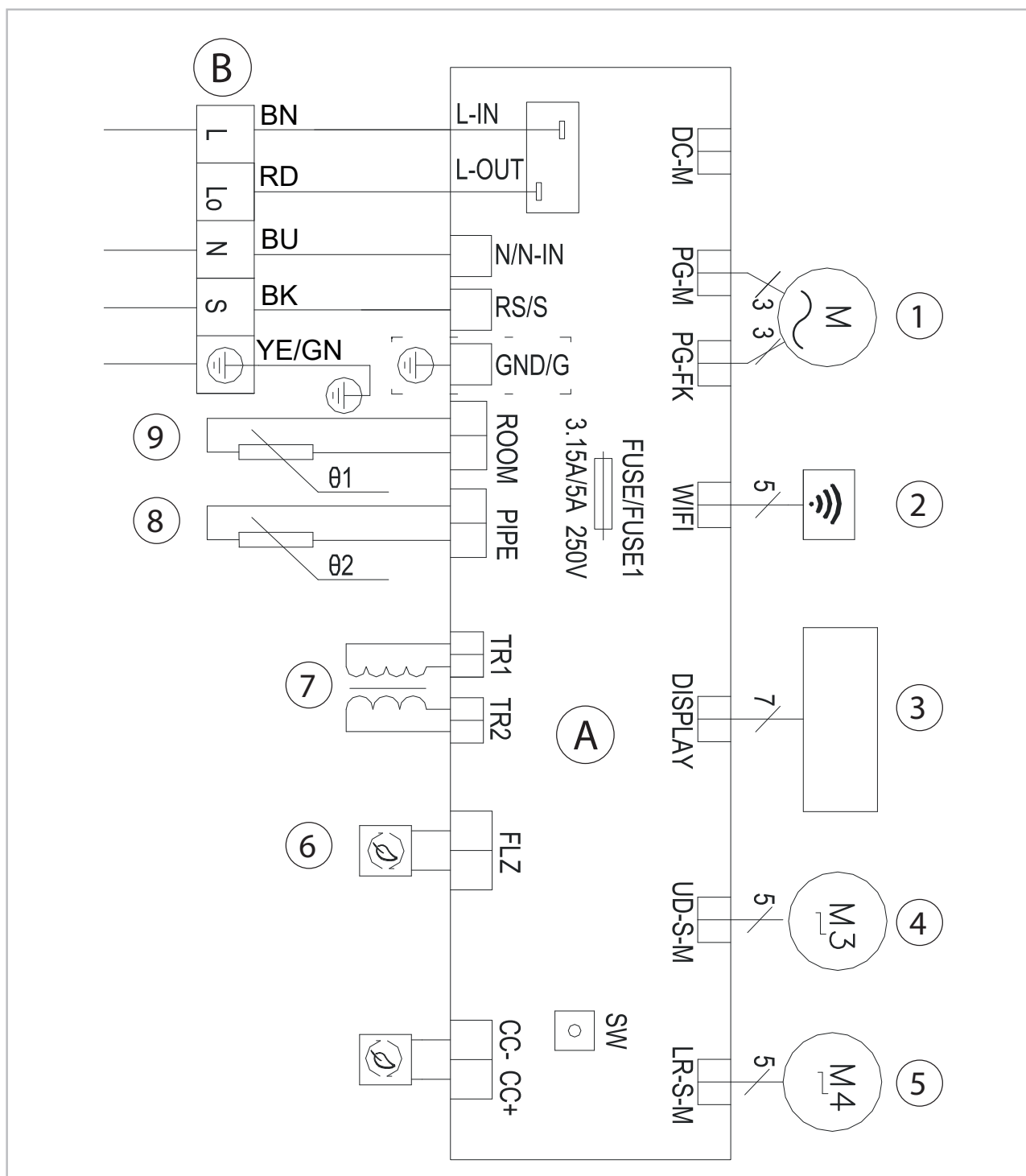


Fig. 32: Electrical drawings

- A: Indoor unit control board
 B: Indoor unit connection block
 1: Fan motor
 2: Wi-Fi connection
 3: Display circuit board
 4: Horizontal swing motor

- 5: Not available
 6: Ion generator
 7: Transformer
 8: Probe, evaporator
 9: Room temperature probe

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Outdoor units BL 264-354 DC AT

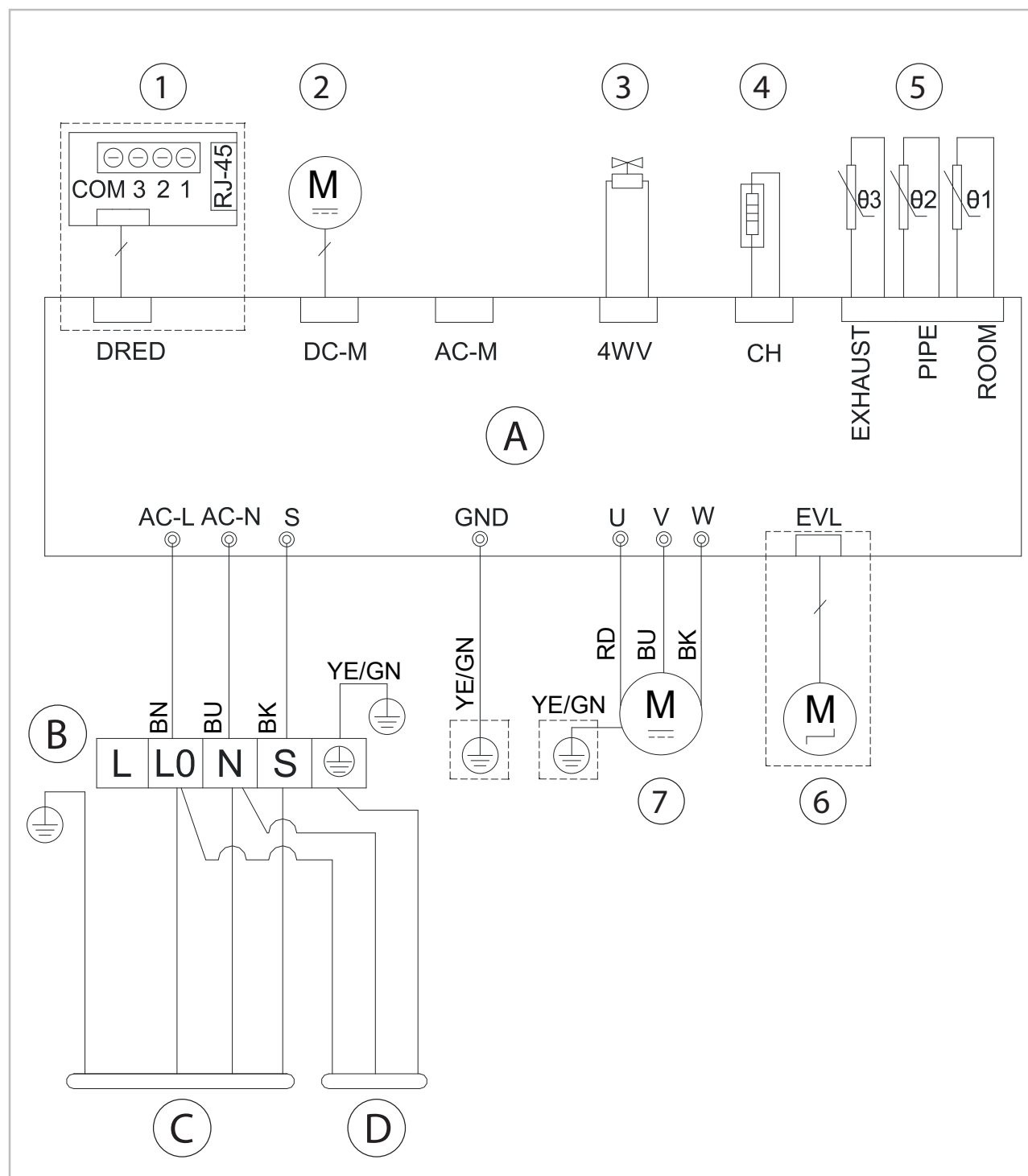


Fig. 33: Electrical drawings

- A: Control board, outdoor unit
- B: Outdoor unit connection block
- C: Control line to indoor unit
- D: Power supply cable

- 3: 4-way changeover valve
- 4: Heating element
- 5: Sensors
- 6: Electronic expansion valve
- 7: Compressor

9 Before commissioning

Perform the following checks prior to putting the unit into operation for the first time and after any work on the cooling cycle. Record the results in the commissioning report:

- Check all refrigerant piping and valves for leak-tightness using leak detection spray or soapy water.
- Check the refrigerant piping and insulation for damage.
- Check the electrical connection between the indoor unit and the outdoor unit for correct polarity.
- Check that all fastenings, mountings, etc. are firm and at the correct level.

10 Commissioning

! NOTICE!

Commissioning should only be performed by specially trained personnel and documented after the certificate has been issued. Observe the operating manuals for the indoor unit and outdoor unit when commissioning the entire system.

Once all the components have been connected and tested, the system can be put into operation. A functional check should be performed to verify its correct function and identify any unusual operating behaviour prior to handing it over to the operator.

! NOTICE!

Check that the shut-off valves and valve caps are tight after carrying out any work on the cooling cycle. Use appropriate sealant products as necessary.

Functional checks and test run

Check the following points:

- Leak-tightness of the refrigerant piping.
- Compressor and fan running smoothly.
- In cooling mode, cold air output by the indoor unit, and warm air output by the outdoor unit.
- Function test of the indoor unit and all program sequences.
- Check of the surface temperature of the suction pipe and that the vaporiser is not overheating. To measure the temperature, hold the thermometer to the suction pipe and subtract the boiling point temperature reading on the pressure gauge from the measured temperature.
- Record the measured temperatures in the commissioning report.

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Function test of the cooling and heating modes

1. ➤ Remove the protective caps from the valves.
2. ➤ Start the commissioning procedure by briefly opening the shut-off valves on the outdoor unit until the pressure gauge indicates a pressure of approx. 2 bar.
3. ➤ Check all connections for leaks with leak detection spray and suitable leak detectors.
4. ➤ If no leaks are found, fully open the shut-off valves by turning them anti-clockwise using a spanner. If leaks are found, remedy the faulty connection. It is imperative that the vacuum creation and drying steps are repeated.
5. ➤ Activate the main circuit breaker or fuse (to be provided by the customer).
6. ➤ Use the remote control to switch on the unit and select the cooling mode, maximum fan speed and lowest target temperature.
7. ➤ Check the overheating, outside, inside, outlet and vaporisation temperatures and record the measured values in the commissioning report. Check the correct function and settings of all regulation, control and safety devices.
8. ➤ Check the unit control system using the functions described in the chapter "Operation". Timer, temperature setting, fan speeds and switching to ventilation or dehumidification mode.
9. ➤ Check the correct function of the condensate drainage line by pouring distilled water into the condensate tray. A bottle with a spout is recommended for pouring the water into the condensate tray.
10. ➤ Switch the indoor unit to heating mode.
11. ➤ During the test run, check the functionality of all of the previously described safety devices.
12. ➤ Record the measured values into the commissioning report and familiarise the operator with the system.
13. ➤ Remove the pressure gauge. Check that seals have been fitted in the sealing caps.
14. ➤ Re-install all disassembled parts.

11 Troubleshooting and customer service

11.1 Troubleshooting and customer service

The unit and components are manufactured using state-of-the-art production methods and tested several times to verify that they function correctly. However, if malfunctions do occur, please check the functions as detailed in the list below. For systems with an indoor unit and outdoor unit, refer to the chapter "Troubleshooting and customer service" in both operating manuals. Please inform your dealer if the unit is still not working correctly after all function checks have been performed!

Operational malfunctions

Malfunction	Possible causes	Checks	Remedial measures
The unit does not start or switches itself off	Power failure, under-voltage, defective mains fuse/main switch in OFF position	Does all other electrical equipment function correctly?	Check the voltage and if necessary, wait for it to come back on
	Damaged power supply cable	Does all other elec. equipment function correctly?	Repair by specialist firm
	Wait time after switching on is too short	Have approx. 5 minutes elapsed since the restart?	Schedule longer wait times
	Temperature outside operating range	Are the fans in the indoor unit and outdoor unit working correctly?	Observe temperature ranges of indoor unit and outdoor unit
	Electrical surges caused by thunderstorms	Have there been lightning strikes in the area recently?	Switch off the mains breaker and switch it back on. Have it inspected by a specialist
	Malfunction of the external condensate pump	Has the pump shut down due to a malfunction?	Check and if necessary clean the pump
The unit does not respond to the remote control	Transmission distance too far/receiver affected by interference	Does the indoor unit beep when pressing a key?	Reduce the distance to less than 6 m or change position
	Remote control is faulty	Is the unit running in manual mode?	Replace the remote control
	Receiver or transmitter unit exposed to excessive solar radiation	Does it function correctly in the shade?	Place the receiver and/or transmitter unit in the shade
	Electromagnetic fields are interfering with transmission	Does it function after removing potential sources of interference?	Signal is not transmitted when interference sources are operational
	Key on remote control stuck/dual key operation	Does the "Transmitting" symbol appear on the display?	Release the key/only press one key
	Batteries in remote control are flat	Have new batteries been inserted? Is the display incomplete?	Insert new batteries
The unit works at reduced or no cooling capacity	Filter is dirty/air inlet/outlet opening is blocked by debris	Have the filters been cleaned?	Clean the filters

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Malfunction	Possible causes	Checks	Remedial measures
	Windows and doors open. Heating/cooling load has increased	Have structural/usage modifications been made?	Close windows and doors/install additional units
	Cooling mode is not set	Does the cooling symbol appear on the display?	Correct the settings for the unit
	Fins on outdoor unit blocked by foreign objects	Does the fan of the outdoor unit work? Are the exchanger fins unobstructed?	Check the fan or winter fan speed control, reduce the air resistance
	Leaking cooling cycle	Are there signs of frost on the exchanger fins of the indoor unit?	Repair by specialist
Condensate discharge on unit	Drainage pipe on collection container clogged/damaged	Can the condensate drain off without any obstruction?	Clean the drainage pipe and collection container
	Faulty external condensate pump or float	Is the collection tray full of water and the pump not running?	Call out a specialist to replace the pump
	Condensate has not drained away and has collected in the condensate drainage line	Is there an incline on the condensate drainage line and is it clear?	Route the condensate drainage line with an incline and clean it
	Condensate does not drain off	Are the condensate drainage lines clear and is there an incline? Are the condensate pump and liquid level switch functioning correctly?	Route the condensate drainage line with an incline and clean it. If the liquid level switch or the condensate pump is defective, have them replaced

NOTE

If the outdoor unit makes noises at low outside temperatures, even although it is switched off, this is not a malfunction. This is the winding of the compressor being run briefly in order to heat up the oil within it and also to guarantee the viscosity at low ambient temperatures. If you do not use the unit in the winter then you can switch off the breaker. Switch it back on again at least 12 hours before the next time that the unit will be required!

Fault display on the indoor unit

Display	Error description
E0	Indoor unit overcurrent protection
E1	Ambient air probe fault
E2	Outdoor unit heat exchanger probe fault
E3	Indoor unit heat exchanger probe fault
E4	Fan speed control indoor unit disabled
E5 (5E)	Communication error between indoor unit and outdoor unit
Eb	EEPROM error, indoor unit
F0	Fan speed control outdoor unit disabled
F1	Power module protective function triggered
F2	Power factor correction filter fault (PFC), outdoor unit
F3	Overcurrent protection on the compressor
F4	Compressor outlet probe fault
F5	Compressor overheating protection switch triggered
F6	Outdoor unit air inlet probe fault
F7	Under and overvoltage protection triggered
F9	EEPROM error, outdoor unit
FA	Circuit reversal probe defective
P2	High pressure fault
P3	Refrigerant level low
P4	Outdoor unit heat exchanger probe overtemperature
P5	Compressor outlet temperature probe overtemperature
P6	Indoor unit heat exchanger temperature probe overtemperature
P7	Indoor unit heat exchanger anti-freeze protection
P8	Outdoor unit overcurrent protection

For fault elimination refer to troubleshooting on the following pages.

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11.2 Indoor unit fault analysis

Fault E0: Indoor unit overcurrent protection

Check whether the power supply is present and correct. Is this normal?	NO	Switch the supply and try again as soon as this is normal again.
YES		
Check all electrical connections. Are they OK?	NO	Correct the electrical connections.
YES		
Exchange the control boards of the indoor unit.		

Fault E1: Ambient air probe fault

Check the connection of the respective probe to the circuit board. Are these correctly implemented?	NO	Establish a proper connection.
YES		
Check the resistance of the probe. Is the measured value plausible? 15 kΩ at 25 °C.	NO	Replace the probe.
YES		
Replace the respective control board.		

Fault E2, E3: Outdoor unit / indoor unit heat exchanger probe fault

Check the connection of the respective probe to the circuit board. Are these correctly implemented?	NO	Establish a proper connection.
YES		
Check the resistance of the probe. Is the measured value plausible? 20 kΩ at 25 °C	NO	Replace the probe.
YES		
Replace the respective control board.		

Fault E4: Indoor unit fan speed disabled

Check the connection of the fan motor to the circuit board. Is this correctly implemented?	NO	Establish a proper connection.
YES		
Measure the voltage between the yellow and black cable when starting the air-conditioning system. Does the voltage continuously increase?	NO	Replace the indoor unit control board.
YES		
Replace the fan motor.		

Fault E5 (5E): Communication error between indoor unit and outdoor unit

Check the connecting line between the indoor unit and outdoor unit. Is it properly connected?	NO	Establish a proper connection.
YES		
Exchange the control boards of the indoor unit. Is the fault still present?	NO	Error rectified.
YES		
Exchange the control boards of the outdoor unit.		

Faults Eb and F9: EEPROM error

Switch the unit off for 5 seconds. Is the fault still shown on the display?	NO	Error rectified.
YES		
Is the EEPROM chip properly seated on the circuit board?	NO	Insert the chip properly.
YES		
Replace the indoor unit or outdoor unit circuit board.		

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Fault F0: Fan speed control outdoor unit disabled

Is the fan motor blocked by a foreign body	YES	Remove foreign body.
NO		
Check all electrical connections. Are these correctly implemented?	NO	Replace the connections.
YES		
Replace the outdoor unit circuit board. Is the fault still present?	NO	Error rectified.
YES		
Replace the fan motor.		

Fault F1: Power module protective function triggered

Check all electrical connections to the compressor. Are these correctly implemented?	NO	Replace the connections.
YES		
Are the refrigerant pressures in a normal range?	NO	Check the heat exchanger for contamination. Check the cooling circuit.
YES		
Replace the outdoor unit circuit board. Is the fault still present?	NO	Error rectified.
YES		
Replace the compressor.		

Fault F2: Power factor correction filter fault (PFC), outdoor unit

Check all electrical connections on the control board. Are these correctly implemented?	NO	Replace the connections.
YES		
Replace the outdoor unit circuit board.		

Fault F3: Overcurrent protection on the compressor

Check all electrical connections. Are these correctly implemented?	NO	Replace the connections.
YES		
Check the compressor windings. Are they OK?	NO	Replace the compressor.
YES		
Exchange the control boards of the outdoor unit		

Fault F4: Compressor outlet probe fault

Check the connection of the respective probe to the circuit board. Are these correctly implemented?	NO	Establish a proper connection.
YES		
Check the resistance of the probe. Is the measured value plausible? 50 kΩ at 25 °C.	NO	Replace the probe.
YES		
Replace the respective control board.		

Fault F5: Compressor overtemperature has tripped

Check the indoor unit and outdoor unit heat exchangers for cleanliness. Is the air exchange guaranteed?	NO	Clean the respective heat exchanger.
YES		
Switch the unit off for 10 minutes. Check whether the unit starts up again normally.	NO	Check all electrical connections and the heat gas probe.
YES		
Check the fill level of the refrigerant. Is this correct?	NO	Check the unit for leaks and fill with new refrigerant.
YES		
Refrigerant cannot circulate. Possibly due to internal contamination or kinked lines.		

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Fault F6: Outdoor unit air inlet probe fault

Check the connection of the respective probe to the circuit board. Are these correctly implemented?	NO	Establish a proper connection.
YES		
Check the resistance of the probe. Is the measured value plausible? 15 kΩ at 25 °C.	NO	Replace the probe.
YES		
Replace the respective control board.		

Fault F7: The outdoor unit overvoltage or undervoltage protection has tripped

Check whether the power supply is present and correct. Is this normal?	NO	Switch the supply and try again as soon as this is normal again.
YES		
Check all electrical connections. Are they OK?	NO	Correct the electrical connections.
YES		
Exchange the control boards of the outdoor unit.		

Fault FA: Circuit reversal probe fault

Check the connection of the respective probe to the circuit board. Are these correctly implemented?	NO	Establish a proper connection.
YES		
Check the resistance of the probe. Is the measured value plausible? 20 kΩ at 25 °C.	NO	Replace the probe.
YES		
Replace the respective control board.		

Fault P2: High pressure fault

Check the heat exchanger of the outdoor unit and indoor unit. Are the heat exchangers clean?	NO	Clean the heat exchangers.
YES		
Are the corner shut-off valves open?	NO	Open corner shut-off valves
YES		
Refrigerant cannot circulate. Possibly due to internal contamination or kinked lines.		

Fault P3: Refrigerant level low

Are the corner shut-off valves open?	NO	Clean the heat exchangers.
YES		
Check the joints of the refrigerant circuit for leaks. Are oily areas present?	YES	
NO		
Perform an overpressure leak test. Is the cooling circuit tight?	NO	Rectify the leak. Adjust the refrigerant quantity.
YES		
Extract the refrigerant and check the refrigerant fill quantity. Refill the refrigerant to the appropriate fill quantity.		

Fault P4: Outdoor unit heat exchanger probe overtemperature

Check the heater exchanger of the outdoor unit. Is the heat exchanger clean?	NO	Clean the heat exchangers.
YES		
Is the fan motor working correctly?	NO	Check fan motor.
YES		
Refrigerant cannot circulate. Possibly due to internal contamination or kinked lines.		

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Fault P5: Compressor outlet probe overtemperature

Check the heater exchanger of the outdoor unit. Is the heat exchanger clean?	NO	Clean the heat exchangers.
YES		
Is there a lack of refrigerant?	YES	Rectify the leak. Adjust the refrigerant quantity.
NO		
Check the current consumption and winding resistances of the compressor and replace it if necessary.		

Fault P6: Indoor unit heat exchanger probe overtemperature

Check the heat exchanger and air filter on the indoor unit. Are the heat exchanger and filter clean?	YES	Clean heat exchanger and filter.
NO		
Check the function of the fan motor.		

Fault P7: Indoor unit heat exchanger probe anti-freeze protection

Is the room temperature below 4 °C?	YES	Increase room temperature
NO		
Check the heat exchanger and air filter on the indoor unit. Are the heat exchanger and filter clean?	YES	Clean heat exchanger and filter.
NO		
Check the function of the fan motor.		

Fault P8: Outdoor unit overcurrent protection

Check all electrical connections. Are these correctly implemented?	NO	Replace the connections.
YES		
Check the compressor windings. Are they OK?	NO	Replace the compressor.
YES		
Exchange the control boards of the outdoor unit.		

12 Care and maintenance

Regular care and observation of some basic points will ensure trouble-free operation and a long service life.



DANGER!

Prior to performing any work, ensure the equipment is disconnected from the voltage supply and secured to prevent accidental switch-on!

Care

- Ensure the unit is protected against dirt, mould and other deposits.
- Only clean the unit using a damp cloth. Do not use any caustic, abrasive or solvent-based cleaning products. Do not use a jet of water.
- Clean the fins on the unit prior to long shut-down periods.

Maintenance

- It is recommended that you take out a maintenance contract with an annual service from an appropriate specialist firm.



This enables you to ensure the operational reliability of the plant at all times!



NOTICE!

Statutory regulations require an annual leak test for the cooling cycle dependant on the refrigerant quantity. Inspection and documentation of the work performed is to be carried out by specialist technicians.

Type of task Checks/maintenance/inspection	Commis- sioning	Monthly	Every 6 months	Yearly
General	●			●
Check voltage and current	●			●
Check function of compressor/fans	●			●
Dirt on condenser/evaporator	●	●		
Check refrigerant fill quantity	●		●	
Check condensate drainage	●		●	
Check insulation	●			●
Check moving parts	●			●
Sealing test for cooling cycle	●			● ¹⁾

¹⁾ See note

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Cleaning the housing

1. ➤ Disconnect the power supply to the unit.
2. ➤ Open and fold the air inlet grill on the front side upwards.
3. ➤ Clean the grill and cover with a soft, damp cloth.
4. ➤ Switch the power supply back on.

Air filter for indoor unit

Clean the air filter at intervals of no more than 2 weeks. Reduce this interval if the air is especially dirty.

Cleaning the filter

1. ➤ Disconnect the power supply to the unit.
2. ➤ Open the front side of the unit by folding the grill upwards and allowing it to engage (Fig. 34).
3. ➤ Raise the filter and pull it out in a downwards direction (Fig. 34).
4. ➤ Clean the filter with a commercially available vacuum cleaner (Fig. 35). To do so, turn the dirty side so it is facing upwards.
5. ➤ Dirt can also be removed by carefully cleaning with lukewarm water and mild cleaning agents (Fig. 36). The dirty side should be face down.
6. ➤ If water is used, let the filter dry out properly in the air before fitting it back into the unit.
7. ➤ Carefully insert the filter. Ensure that it locates correctly.
8. ➤ Close the front side as described above in reverse order.
9. ➤ Switch the power supply back on.
10. ➤ Switch the unit back on.

Cleaning the condensate pump (accessories)

The indoor unit may contain an optional integrated or separate condensate pump, which pumps out any accumulated condensate into higher positioned drains.

Observe the care and maintenance instructions in the separate operating manual.

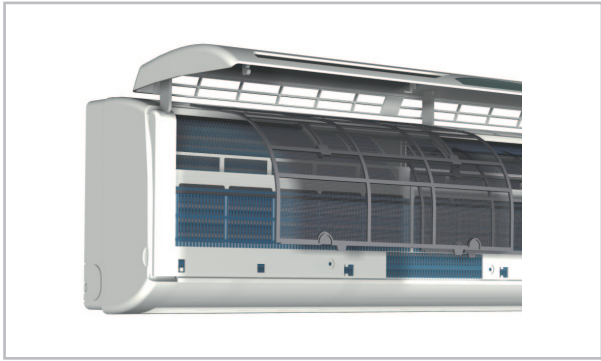


Fig. 34: Folding the grill upwards



Fig. 35: Cleaning with a vacuum cleaner



Fig. 36: Cleaning with lukewarm water

13 Shutdown

Temporary shutdown

1. ➤ Let the indoor unit run for 2 to 3 hours in recirculation mode, or in cooling mode at maximum temperature, to extract any residual humidity from the unit.
2. ➤ Shut down the system using the remote control.
3. ➤ Switch off the electrical power supply to the unit.
4. ➤ Cover the unit as far as possible with plastic foil in order to protect it from the influences of weather.

Permanent shutdown

Ensure that units and components are disposed of in accordance with local regulations, e.g. through authorised disposal and recycling specialists or at collection points.

REMKO GmbH & Co. KG or your contractual partner will be pleased to provide a list of certified firms in your area.

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14 Spare parts list and exploded view

The continuous further development of REMKO products sometimes involve adjustments to spare parts within a unit series which are linked to each production batch.

To ensure the correct delivery of spare parts, unit series number information is therefore required (see name plate).

The following QR code takes you to the input field on our website.



Alternatively, the following address can also be entered directly into your web browser:


www.remko.de/ersatzteil-suche/

In both cases, you are taken to the following search screen in which the serial number can then be entered.

Navigation

Search for product ...

Q



Contact


International

Konto

Basket 0

Spare part search

To ensure that you get the right spare part, please indicate the serial number of your REMKO device.

The serial number / manufacturer's device number can be found on the silver-colored  Nameplate of each REMKO device.

Serial Nr.

Q

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REMKO QUALITY WITH SYSTEMS

Air-Conditioning | Heating | New Energies

REMKO GmbH & Co. KG
Klima- und Wärmetechnik

Im Seelenkamp 12
32791 Lage

Telephone +49 (0) 5232 606-0
Telefax +49 (0) 5232 606-260

E-mail info@remko.de
URL www.remko.de

Hotline within Germany
+49 (0) 5232 606-0

Hotline International
+49 (0) 5232 606-130

