

SAMSUNG Quick Start Guide Air Conditioner AC***BXU*CH Hylex™

NOTICE

A qualified installer or agency is required for proper installation. This guide is for reference only and it is not intended to replace the product installation Instructions.

1 Spacing requirements

CAUTION

This device must be installed according to national and local electrical and mechanical regulations. The outdoor unit must be installed according to the specified distances to permit accessibility from each side, and to guarantee correct operation, maintenance, and repair of the unit. The components of the outdoor unit must be reachable and removable under safe conditions for people and the unit. If your outdoor unit exceeds a net weight of 132 lbs. do not install suspended on a wall but stand it on the ground. When installing the outdoor unit near the seaside, make sure that it is not directly exposed to the sea breeze. If you cannot find an adequate place free from the direct sea breeze, construct a wall or a protective fence.

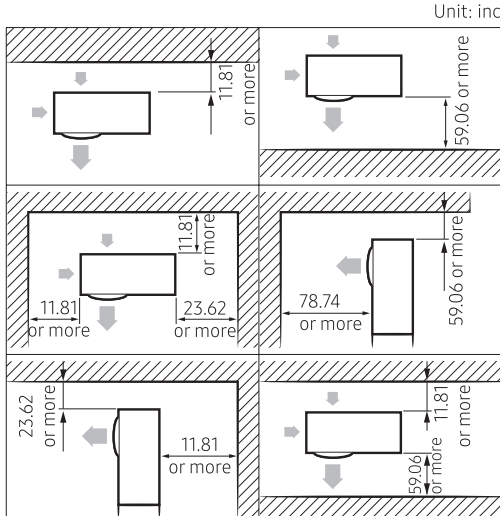


Figure 1: Clearance Requirements

7 Install AHU control unit

The Hylex™ unit will require the AHU control unit (ACU) to be installed between the thermostat, indoor unit, and outdoor unit. The ACU must be installed indoors near or on the indoor unit. The Hylex™ and the ACU will have full control of the air handler, **not the thermostat**. This will allow the system to be configured as a cooling only or a heat pump using only two wires. The AHU control unit will allow up to three fan speed configurations. This will increase the efficiency of the system. Optional relay kits are available for air handling units with PSC motors to provide three fan speed control.

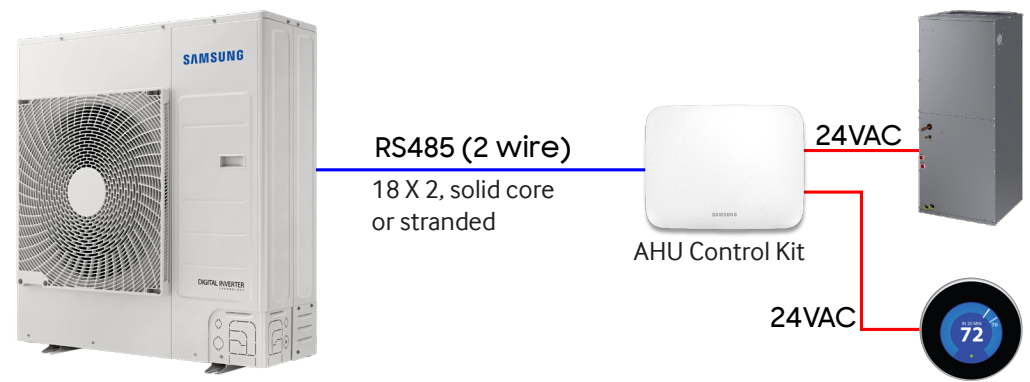


Figure 12: AHU control unit integration with the Hylex™ system

CAUTION

- The AHU Control Unit (ACU) should be installed by a qualified person, according to the relevant local wiring regulations.
- Turn off power before connecting the terminals.
- Ensure that the wires are installed inside the indoor unit or on a wall near the indoor unit, to prevent access by users.
- Do not install the AHU Control Unit (ACU) outdoors.
- Do not install the AHU Control Unit (ACU) in a location with direct sunlight or a location with a risk that the AHU Control Unit (ACU) may come into contact with liquid or may be impacted.
- Close the AHU Control Unit (ACU) securely after installation.

Figure 13: Open the ACU

Figure 14: Wiring entry

Figure 15: Spacing requirements

Figure 16: Wire routing

Figure 17: Wire labels and cable tie

Figure 12: AHU control unit integration with the Hylex™ system

2 Install the outdoor unit

Install the outdoor unit on a rigid and stable base to prevent disturbance from any noise caused by vibration. When installing the unit on tall stands or in a location exposed to strong winds, fix the unit securely to the ground or structure. Install above the snow line.

- Position the outdoor unit so that the airflow is directed towards the outside, as indicated by the arrows on the top of the unit.
- Attach the outdoor unit to the appropriate support using anchor bolts.
- If the outdoor unit is exposed to strong winds, install wind baffles around the outdoor unit, so that the fan can operate correctly.

Figure 2: Bolt locations

3 Pipe length and diameter requirement

When reusing existing refrigerant pipes (retrofit), be sure to:

- Confirm that the existing pipe diameter, length, and height difference between outdoor and indoor units meet the requirements listed in Table 1 and Table 2.
- Confirm that the maximum pressure for the indoor unit is equal to or higher than the maximum pressure for the outdoor unit.
- Confirm that the indoor unit is compatible with R-410A, and utilizes a Thermostatic Expansion Valve (TXV). If the existing indoor unit utilizes a fixed orifice (piston), replace the orifice with an R-410A TXV. If the unit will be configured as a heat pump, a heat pump TXV must be installed.
- Flush the inside of the piping to remove moisture, oil and any other foreign matter.

Figure 3: Pipe length

Table 1: Maximum allowable pipe length [ft]

Table 2: Recommended liquid and gas pipe diameters [inch]

8 Mounting the AHU control unit

1. Push the middle area of the AHU Control Unit (ACU) to separate the front cover, as shown in Figure 13.

2. Before affixing the AHU Control Unit (ACU), remove area A on the rear cover as shown in Figure 14. Insert wires into this opening.

Figure 13: Open the ACU

Figure 14: Wiring entry

Figure 15: Spacing requirements

Figure 16: Wire routing

Figure 17: Wire labels and cable tie

Figure 13: Open the ACU

Figure 14: Wiring entry

Figure 15: Spacing requirements

Figure 16: Wire routing

Figure 17: Wire labels and cable tie

4 Connecting the refrigerant pipes

CAUTION

While on site and prior to installation, protect or enclose refrigerant tubing to avoid mechanical damage and debris.

Important: When installing the unit, always connect the refrigerant pipes first, followed by the electrical cables. For disassembly, always disassemble the electric cables before the refrigerant pipes. A field-supplied bi-flow liquid line filter drier must be installed. If you are using existing piping, you must flush the lines with nitrogen or liquid refrigerant (use correct recovery methods).

Figure 5: Correct pipe cutting

Figure 6: Dry nitrogen flushing

Figure 4: Refrigerant pipe outlet

The refrigerant pipes can enter the chassis from the front, side, rear, or bottom of the unit.

- Cut the pipe outlet to the exact pipe size. In addition, remove foreign substances and burrs around the outlet. See Figure 4.
- Use sheet metal shears to cut the pipe outlet to the exact pipe size. **Never use a hammer of any kind to remove the pipe outlet panel. This will damage the cabinet.** Remove foreign substances and burrs around the outlet.

9 Wiring the AHU control unit

Figure 18: AHU control board layout

Figure 19: QR code to support app

The AHU Control Unit (ACU) must be powered by the same transformer as the indoor unit. If more than one transformer is used, product damage will occur. The maximum power consumption of the AHU Control Unit (ACU) is 3W. If a 1-stage thermostat is used, connect the Y output to either the Y1 or Y2 input terminal on the AHU Control Unit (ACU). Use a separate jumper wire to connect Y1 to Y2 of the AHU Control Unit (ACU). If the indoor unit only has a Y input terminal, connect it to the Y1 output terminal in the AHU Control Unit (ACU).

- Turn off the power before connecting the terminals.
- Connect the wires to the corresponding terminal blocks. For wiring instructions, refer to the wiring diagrams in the AHU installation manual for your equipment type.
- Compression ring terminal specifications for connection to the AHU Control Unit PCB can be found in the ACU installation manual.
- Set the DIP switches to fit the application requirements. Scan the QR code attached to the front cover of the AHU Control Unit (ACU) using a smartphone camera to use an online system configuration wizard. <https://www.samsunghvac.com/unitary-settings>
- Pass the supplied cable tie through the wire organizer loop, and secure the wires connected to the terminal blocks. Ensure that the knot of the cable tie faces the side. Close the cover.

5 Refrigerant test and evacuation

CAUTION

Perform a leak test and triple evacuation procedure to remove all contaminants and moisture from the system before charging. Failure to do so will result in reduced performance and shorter equipment life. **These procedures are for Samsung Hylex systems only. Refer to 3rd party air handler or coil information for pressure specifications.** Ensure all field refrigerant piping is installed and connected to the outdoor and indoor units. **Be sure the Hylex™ service valves are closed.** Use only commercial liquid gas leak detectors.

- Never use household liquid soap for leak detection.
- Never use refrigerant dye for leak detection.
- Never use an injectable refrigerant leak sealant.

- Pressurize the system to 100 psi for 5 minutes. Leak check with the bubble solution.
- Increase the pressure to 300 psi for 5 minutes. Leak check with the bubble solution.
- Increase the pressure to 500 psi and hold for 24 hours. Leak check with bubble solution. The time required to perform each evacuation will depend on the capacity (CFM) of the vacuum pump used.

Figure 7: Three step nitrogen pressure test

Figure 8: Vacuum pump setup

10 Hylex™ control board functions

Figure 20: Seven-segment display

Figure 21: Pipe insulation

Figure 22: Pipe insulation

6 Connecting wire conduits

When connecting cables to the indoor unit and the outdoor unit, use conduits to protect the cables. Refer to NEC or local authority for any code changes or restrictions. Ensure all wires are in protective, weatherproof conduit. High and low voltage wires cannot be installed in the same conduit.

- Use sheet metal shears to remove the conduit knockouts. **Never use a hammer of any kind to remove the conduit holes. This will damage the cabinet.** See Figure 9.
- Insert the cables into the conduits, and then fix the conduits to the conduit plate with NEC approved pull restraints.
- Apply silicone to the end of the hose to prevent rain from entering the hose. See Figure 10.

Figure 9: Conduit hole location

Figure 10: Seal with silicone

Figure 11: Wiring diagram

Table 3: MCA/MOCP values

Hylex Model	Power Source	RLA (A)	FAN1 (A)	FAN 2 (A)	MCA (A)	MOP (A)
AC024BXUPCH	208 - 230 V 60 Hz	17.6	1.25	-	24.1	30
AC036BXUDCH		17.8	1.25	-	24.4	35
AC036BXUPCH		17.8	1.25	1.25	25.6	35
AC048BXUPCH	Voltage tolerance: +/- 10%	23.5	1.25	1.25	32.7	40
AC060BXUPCH		23.9	1.25	1.25	33.2	40

RLA: Rated load ampere (A)
MOC: Maximum operating current (A)
MCA: Minimum circuit ampere (A)
MOP: Maximum over-current protective device (A)

11 Adjusting refrigerant charge

The outdoor unit is precharged with the optimal amount of refrigerant for installations with up to 25 feet of piping when connected to an AHRI-listed indoor unit from the tested basic model group. For details on additional refrigerant charge requirements, please refer the installation manual. If the outdoor unit has been retrofitted to a third-party air handler, be sure to adjust the amount of refrigerant to the amount calculated by using the internal coil volume of the indoor unit and the length of the installed piping. If the internal coil volume of the indoor unit cannot be determined, calculate the total refrigerant amount by using the tables in the installation manual.

- Check if the service valve is closed completely.
- Charge the refrigerant through the service port of the liquid service valve. Do not charge the refrigerant through the service port of the gas stop valve.
- If you have any difficulty charging the refrigerant as described in the steps above, take the following steps:
 - Open the liquid service valve and gas service valve.
 - Operate the air conditioner by pressing the K2 button once on the outdoor unit PCB.
 - After the system has stabilized, charge the refrigerant through liquid line service port.

Figure 21: Pipe insulation

12 Performing final checks

- Check the power supply between the outdoor unit and the auxiliary circuit breaker. 1 phase power supply: L, N.
 - Check the indoor unit and the ACU (AHU Control Unit) Kit. Check communication and power cable connections.
 - Turn on the indoor unit.
 - Press K1 or K2 on the outdoor unit PCB to start and end the test modes. See the installation manual for variable test modes.
- Do not start the system under a vacuum.
 - Do not remove hoses or expose the system to a loss of vacuum.
 - Do not release the refrigerant under a vacuum.
 - It is recommended that power be applied no less than 3 hours before to start-up. Take this time to ensure all of your settings and configurations are correct.