Air-Con 24ACZ

Air-Con 24000 BTU Ductless Mini Split System User Manual

Model: 24ACZ

1. Product Overview

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Air-Con 24000 BTU 21 SEER Ductless Mini Split DC Inverter Air Conditioner Heat Pump System. This system is designed to provide efficient heating and cooling for residential and light commercial applications.

Figure 1.1: Complete Air-Con Mini Split System including indoor unit, outdoor unit, refrigerant lines, and remote control.

2. Safety Information

WARNING: Please read all safety warnings and instructions carefully before installing or operating this appliance. Failure to follow these instructions may result in electric shock, fire, property damage, or personal injury.

- Ensure the unit is installed by a qualified HVAC technician in accordance with all local and national electrical and building codes.
- Always disconnect power to the unit before performing any maintenance or service.
- Do not insert fingers or objects into the air inlet/outlet.
- Keep flammable materials away from the unit.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

3. Components and Parts

Your Air-Con Mini Split System includes the following main components:

- **Indoor Unit (Evaporator):** Mounted inside the conditioned space.
- **Outdoor Unit (Condenser):** Mounted outside the building.
- **Remote Control:** For operating the unit.
- **Refrigerant Lines:** Pre-charged 15ft kit for connecting indoor and outdoor units.
- **Drain Hose:** For condensate removal.
- **Electrical Wiring:** For power and communication.

Figure 3.1: Rear view of the indoor unit, illustrating the mounting bracket and connection points for refrigerant lines and electrical wiring.

Figure 3.2: Front view of the outdoor unit, showing the protective grille for the fan and coil.

Figure 3.3: Top-down view of the outdoor unit, highlighting the coil fins for heat exchange.

4. Installation Guide

Installation of this mini split system requires specialized tools and knowledge. It is highly recommended that installation be performed by a certified HVAC professional.

4.1 Site Selection

- **Indoor Unit:** Choose a location that allows for proper air circulation, is away from direct sunlight or heat sources, and has sufficient space for maintenance. Ensure the wall can support the unit's weight.
- **Outdoor Unit:** Select a location with good airflow, minimal exposure to direct sunlight, and away from noise-

sensitive areas. Maintain adequate clearance around the unit for proper operation and service.

4.2 Mounting the Indoor Unit

1. Attach the mounting plate to the wall, ensuring it is level and securely fastened.
2. Drill a hole (approximately 2.5-3 inches in diameter) through the wall for the refrigerant lines, drain hose, and electrical wiring. Ensure a slight downward slope towards the outside for proper drainage.
3. Connect the refrigerant lines, drain hose, and electrical wiring to the indoor unit.
4. Mount the indoor unit onto the mounting plate.

4.3 Installing the Outdoor Unit

1. Place the outdoor unit on a level, stable surface or a dedicated mounting pad/bracket.
2. Connect the refrigerant lines from the indoor unit to the outdoor unit. Ensure connections are tight to prevent leaks.
3. Connect the electrical wiring between the indoor and outdoor units, and to the main power supply (208-230 Volt).
4. Perform a vacuum test on the refrigerant lines to remove any air and moisture.
5. Open the service valves to release the pre-charged refrigerant into the system.

Note: Proper vacuuming and leak testing are crucial for system efficiency and longevity. Consult a professional if you are unsure about these steps.

5. Operating Instructions

Your Air-Con Mini Split System is operated primarily via the wireless remote control.

Figure 5.1: Air-Con Mini Split System Remote Control layout.

5.1 Remote Control Functions

- **ON/OFF:** Powers the unit on or off.
- **MODE:** Cycles through operating modes: Auto, Cool, Dry, Heat, Fan.
- **FAN:** Adjusts fan speed (Auto, Low, Med, High).
- **SWING:** Controls the vertical louver swing.
- **SLEEP:** Activates sleep mode for quiet operation and energy saving.
- **SUPER:** Engages rapid cooling or heating for quick temperature changes.
- **SMART:** Automatically selects the optimal operating mode based on room temperature.
- **iFEEL:** Activates the temperature sensor in the remote control for more precise temperature regulation at your location.

- **DIMMER:** Turns the indoor unit's display light on or off.
- **TIMER ON/OFF:** Sets a timer for the unit to turn on or off automatically.
- **CLOCK:** Sets the current time on the remote.
- **8° HEAT:** Maintains a minimum temperature of 8°C (46°F) to prevent freezing in unoccupied rooms during winter.
- **Temperature Buttons (▲/▼):** Adjusts the desired temperature.

5.2 Basic Operation

1. Press the **ON/OFF** button to start the unit.
2. Press the **MODE** button to select your desired operating mode (e.g., Cool for cooling, Heat for heating).
3. Use the **Temperature Buttons (▲/▼)** to set your desired room temperature.
4. Adjust the fan speed using the **FAN** button if needed.

6. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your Air-Con Mini Split System.

6.1 Air Filter Cleaning

- The indoor unit's air filters should be cleaned every two weeks or more frequently depending on usage and air quality.
- Open the front panel of the indoor unit and remove the air filters.
- Wash the filters with lukewarm water and a mild detergent. Rinse thoroughly and allow them to dry completely before reinserting.

6.2 Outdoor Unit Cleaning

- Periodically clear any debris (leaves, dirt, etc.) from around the outdoor unit.
- Gently clean the outdoor coil fins with a soft brush or water hose. Be careful not to bend the fins.

6.3 Professional Servicing

It is recommended to have a qualified HVAC technician inspect and service your system annually. This includes checking refrigerant levels, cleaning coils, inspecting electrical connections, and verifying proper operation.

7. Troubleshooting

Before contacting customer support, please refer to the following common issues and their solutions:

Problem	Possible Cause	Solution
Unit does not turn on.	No power, remote control batteries dead, circuit breaker tripped.	Check power supply, replace remote batteries, reset circuit breaker.
Insufficient cooling/heating.	Dirty air filters, blocked outdoor unit, low refrigerant, wrong mode selected.	Clean air filters, clear obstructions from outdoor unit, check mode, contact technician for refrigerant check.
Water leaking from indoor unit.	Clogged drain hose, improper installation angle.	Clear drain hose, ensure proper slope of drain line. Contact technician if issue persists.

Problem	Possible Cause	Solution
Unusual noise.	Loose parts, fan obstruction, compressor issue.	Check for loose parts or obstructions. If noise persists or is loud, contact a technician.

8. Specifications

Key technical specifications for the Air-Con 24000 BTU Mini Split System (Model: 24ACZ):

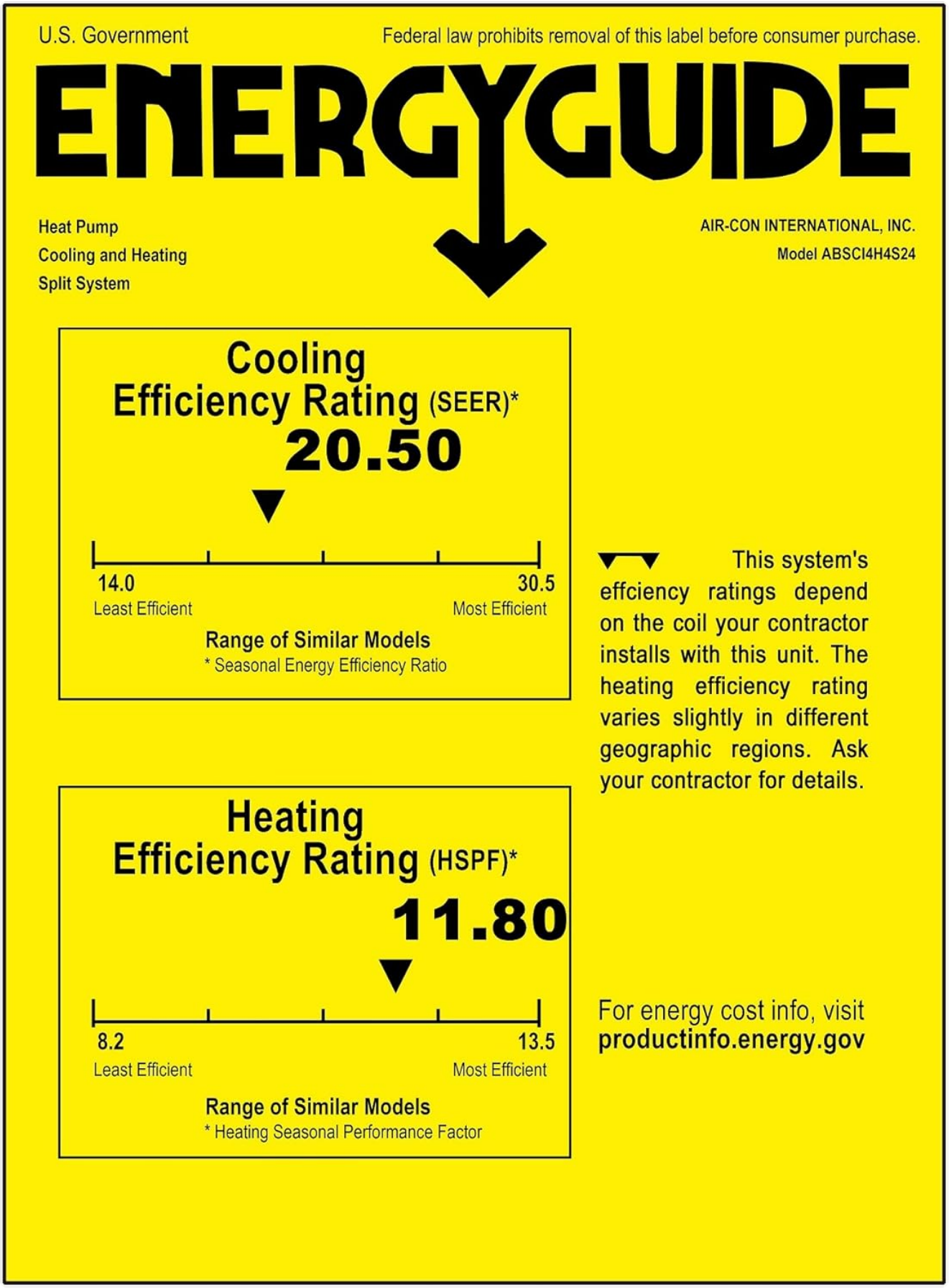

Figure 8.1: Energy Guide for Air-Con Mini Split System, highlighting SEER and HSPF ratings.

Model No.		ABSCI/EM4H4S18	ABSCI/EM4H4S24
Type		T1, INVERTER	T1, INVERTER
Performance			
Cooling Capacity	Btu/h	18000	24000
Heating Capacity	Btu/h	19000	24500
Cooling Capacity Range	Btu/h	6500-19500	8000-26500
Heating Capacity Range	Btu/h	6500-20000	8000-26500
Rated Input-Cooling	W	1385	2035
Rated Input-Heating	W	1595	2080
SEER	Cooling	23.3	20.5

HSPF	Heatling	11.6	11.8
EER for Cooling	Btu/W	13.00	11.73
COP for Heating	Btu/W	11.90	11.78
E-STAR__V5.0	ASHP: SEER>15, EER>12.5, HSPF>8.5 CAC: SEER>15, EER>12.5	Yes	No
Most Efficient 2016	ASHP: SEER>20, EER>12.5, HSPF>10 CAC: SEER>20, EER>12.5	Yes	No
CEE Qualifying Tier	Tier0 - 14.5SEER, 12EER, (8.5HSPF) Tier1 - 15SEER, 12.5EER, (8.5HSPF) Tier2 - 16SEER, 13EER, (9HSPF) Tier3 - 18SEER,13EER, (10HSPF)	Tier3	No
Moisture Removal	L/H.r	1.5	2.4
Air Circulation	m3/h	1100	1200
Refrigerant		R410A	R410A
Refrigerant charge volume	g	1550	1880
Indoor Sound Pressure(H/M/L/silence)	dB (A)	45/41/37/34	48/45/40/36
Outdoor Sound pressure	dB (A)	55	58
Voltage, Frequency, Phase	V	230V~,208V~,60Hz,1P	
Rated Current	Cooling (A)	6.3	9.2
	Heating (A)	7.2	9.3
Current Range	Cooling (A)	1.5-12	1.8-13
	Heating (A)	1.5-12	1.8-13
System			
Compressor type		Rotary	Rotary
Compressor MFG		GMCC	GMCC
Expansion Device		capillary	capillary
Compressor model #		ATM150D43UFZ	ATF235D22UMT
Indoor DC motor		Yes	Yes
Indoor motor MFG		Weiling	Weiling
Indoor motor model #		K1B310497	K1B310497
Indoor motor power ioutput	W	35	35
Indoor motor speed	H/M/L	1100/960/800	1200/1040/880
Outdoor DC motor		Yes	Yes
Outdoor motor MFG		Broad-ocean	Broad-ocean
Outdoor motor model #		DG13Z2D-04	DG13Z2-21
Outdoor motor power input	W	60	61
Outdoor motor speed	H/M/L	840/650/500	1200/550/500
Evaporator			
Evaporator material		Copper tube and Aluminum Fin	
Number of rows		2	2
Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube
Evaporator length x height x width	mm	842x378x27.2	842x336x272
Tube pitch(a)x row pitch(b)	mm	21x13.6	21x13.6
Fin spacing	mm	1.4	1.4
Condenser			
Condenser material		Copper tube and Aluminum Fin	
Number of rows		2	2
Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube
Condensor length x height x width	mm	895×630×18.2 867×630×18.2	842x27.2x378
Tube pitch(a)x row pitch(b)	mm	21x18.19	21x18.19
Fin spacing	mm	1.6	1.5
Connecting Pipe Diameter			
Liquid Pipe	inch	1/4	3/8
Gas Pipe	inch	1/2	5/8
Others			
Net Dimensions WxHxD (mm)	Indoor Unit mm	1100×325×244	1100×325×244
	Indoor Unit in	43 5/16x12 13/16x9 5/8	43 5/16x12 13/16x9 5/8
	Outdoor Unit mm	860x650x310	885×795×366
	Outdoor Unit in	33 7/8x25 9/16x12 3/16	34 7/8x31 5/16x14 3/8
Net Weight (Kg)	Indoor Unit	14.5	14.5
	Outdoor Unit	45	56
Packing Dimensions WxHxD (mm)(With pipe)	Indoor Unit mm	1170×390×315	1170×390×315
	Indoor Unit in	46 1/16x15 3/8x12 7/16	46 1/16x15 3/8x12 7/16
	Outdoor Unit mm	995x730x445	1050×890×500
	Outdoor Unit in	39 3/16x28 3/4x17 1/2	41 11/32x35x19 11/16
Gross Weight (Kg)	Indoor Unit	17.0	17.0
	Outdoor Unit	49	64
Loading Capacity NO pipe(40'HC)		150	115
Test Standard		ARI 210-240	ARI 210-240
Approvals		ETL/AHRI	ETL/AHRI
Features			
LED Display on Front Panel		Yes	Yes
LED Dimmer		Yes	Yes
7 Indoor Fan Speed		Yes	Yes
LCD Wireless Remote Controller		Yes	Yes
"I feel" in remote controller		Yes	Yes
Back lighting remote controller		Yes	Yes
-20°C (-4°F) Heating		Yes	Yes
-15°C (5°F) Cooling		Yes	Yes
Working Temperature Range - Cooling (°C/°F)		-15℃-46℃; (5°F-115°F)	-15℃-46℃; (5°F-115°F)
Working Temperature Range - Heating (°C/°F)		-20℃-24℃; (-4℉-75℉)	-20℃-24℃; (-4℉-75℉)
Remote Control Adjustable Temperature Range - Cooling		16℃-30℃; (61°F-86°F)	16℃-30℃; (61°F-86°F)
Remote Control Adjustable Temperature Range - Heating		16℃-30℃; (61℉-86℉)	16℃-30℃; (61℉-86℉)
8°C (46°F) Heating to avoid freezing water pipe in Kitchen		Yes	Yes
°C & °F convertible		Yes	Yes
2 Ways Draining Connection (Left or Right)		Yes	Yes
Compressor Intelligent Pre-heating		Yes	Yes
Smart Function		Yes	Yes
Super Function		Yes	Yes
Auto Restart		Yes	Yes
Auto Defrost		Yes	Yes
Auto Cleaning		Yes	Yes
Quiet Mode		Yes	Yes
24 Hours Timer		Yes	Yes
Removable and washable Panel		Yes	Yes
Louver Postion Memory		Yes	Yes
Washable High Definition Filter		Yes	Yes

Horizontal Auto Swing Louver	Yes	Yes
Chassis Electric heater function	Yes	Yes
Vertical Auto Swing Louver	Yes	Yes
Healthy Filter(catechins,VC,HEPA,jasmine aroma filter)	Optional	Optional
Wired control	Optional	Optional

Figure 8.2: Comprehensive technical specifications table for various Air-Con Mini Split System models, including the 24ACZ.

Specification	Value
Brand	Air-Con
Model Number	24ACZ
Capacity	24000 BTU (2 Tons)
SEER (Seasonal Energy Efficiency Ratio)	21.0
Voltage	208-230 Volts
Noise Level (Outdoor Unit)	56 dB
Refrigerant	R 410A
Item Weight	255 pounds
Special Features	Ductless, Remote Control

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact Air-Con customer service directly. It is important to note that self-installation may void the warranty. Professional installation is highly recommended to ensure warranty validity and proper system operation.
For further assistance, please visit the official Air-Con website or contact their customer support line.