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### Cooper & Hunter CH-24SPH-230V-WK

# Cooper & Hunter Sophia Series Mini Split AC/Heating System User Manual

Model: CH-24SPH-230V-WK

## 1. INTRODUCTION

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This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Cooper & Hunter Sophia Series Mini Split AC/Heating System, model CH-24SPH-230V-WK. Please read this manual thoroughly before using the appliance and retain it for future reference.



**Figure 1:** Cooper & Hunter Sophia Series Mini Split AC/Heating System components, including indoor unit, outdoor condenser, remote control, smartphone app interface, and installation kit. This image displays the complete Cooper & Hunter Sophia Series mini split system. It features the sleek white indoor wall-mount unit, the outdoor condenser, a remote control, a smartphone screen showing the C&H Remote app, and various components of the installation kit such as copper line sets and wiring.

## 2. SAFETY INFORMATION

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Always adhere to local and national electrical codes. Installation and servicing should be performed by qualified personnel. Disconnect power before performing any maintenance or repairs. Do not block air inlets or outlets. Ensure proper grounding to prevent electrical shock. Keep children away from the unit during operation.

## 3. PRODUCT OVERVIEW

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The Cooper & Hunter Sophia Series CH-24SPH-230V-WK is a single-zone ductless mini split system designed for both cooling and heating. It features a 24,000 BTU capacity, an 18.9 SEER efficiency rating, and operates on 208-230V. Key features include a dehumidifier function, inverter compressor technology for energy efficiency, remote control operation, and Wi-Fi connectivity via a smart port adapter.

## Included Components:

- Indoor Wall Mount Unit
- Outdoor Condenser Unit
- Remote Control
- Smart Port Adapter (for Wi-Fi connectivity)
- Installation Kit (16ft Pre-Flared and Insulated Copper Line Set, 16ft Communication Wires, Small Accessories, 16ft Drainage Extension)



**Figure 2:** Detailed view of components included with the Cooper & Hunter Mini Split system: indoor unit, outdoor condenser, smart port adapter, insulated line set, communication wires, and drainage extension. This image provides a clear layout of all items included in the product package.

## 4. SETUP AND INSTALLATION

The installation of this mini split system requires specialized tools and knowledge. It is strongly recommended that installation, especially the electrical wiring and refrigerant line connections, be performed by a certified HVAC professional to ensure proper function, safety, and warranty validity.

## Installation Kit:

The system includes a comprehensive installation kit:

- **16ft Pre-Flared and Insulated Copper Line Set:** For connecting the indoor and outdoor units.
- **16ft Communication Wires:** For electrical communication between units.
- **16ft Drainage Extension:** For condensate removal.
- **Small Accessories:** Various fittings and tapes.



**Figure 3:** Close-up of the premium installation kit components: three-layer insulated and pre-flared copper line set, communication wires with connectors, and high-grade rubberized drainage tube extension. This image highlights the quality of the included installation components.

## Smart Port Adapter (Wi-Fi Setup):

The included smart port adapter enables Wi-Fi connectivity. Once installed, download the C&H Remote mobile app to your smartphone. Follow the app's instructions to pair your device and gain remote control over your mini split system.

## 5. OPERATING INSTRUCTIONS

Your Cooper & Hunter mini split system offers various modes and features for optimal climate control.

## Control Methods:

- **Remote Control:** Use the provided wireless remote to adjust settings.
- **C&H Remote Mobile App:** Connect via the smart port adapter to control the unit from your smartphone. Functions include ON/OFF, temperature adjustment (Celsius/Fahrenheit), mode selection, and fan speed.

## Operating Modes:

- **Cooling:** Provides cooling for your space.
- **Heating:** Operates effectively in ambient temperatures as low as -13°F.
- **Dehumidifier:** Reduces humidity levels.
- **Fan-Only:** Circulates air without heating or cooling.

## Special Features:

- **Whisper Technology:** Ensures quiet operation, suitable for bedrooms and living areas.
- **Turbo Mode:** Provides rapid cooling or heating.
- **Sleep Mode:** Adjusts temperature and fan speed for comfortable sleep.
- **Self-Diagnosis Function:** Helps identify operational issues.
- **Freeze Prevention (FP) Mode:** To set the heating temperature below 62°F (e.g., for garages), press the temperature down button on the remote twice quickly when the unit is set to 62°F.

## 6. MAINTENANCE

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Regular maintenance ensures optimal performance and longevity of your unit.

- **Filter Cleaning:** Regularly clean the air filters in the indoor unit to maintain air quality and efficiency. Refer to the detailed instructions in the full product manual for filter removal and cleaning procedures.
- **Indoor Unit Cleaning:** Wipe the exterior of the indoor unit with a soft, damp cloth. Do not use harsh chemicals.
- **Outdoor Unit Cleaning:** Keep the outdoor condenser coil free of debris, leaves, and dirt. Ensure proper airflow around the unit.
- **Drainage Check:** Periodically inspect the condensate drain line for blockages to prevent water leakage.
- **Professional Inspection:** Annual professional inspection is recommended to check refrigerant levels, electrical connections, and overall system health.

## 7. TROUBLESHOOTING

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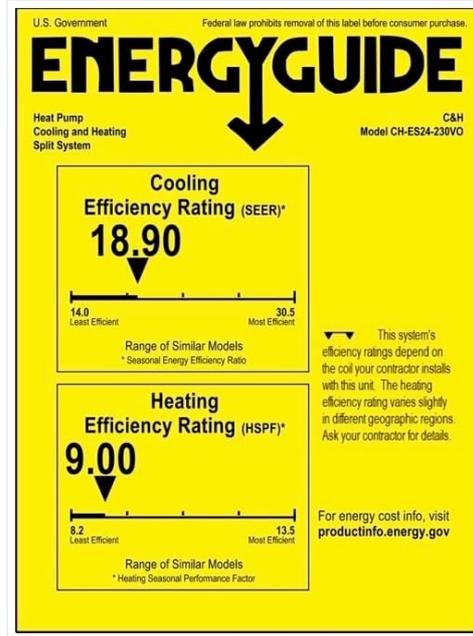
This section addresses common issues you might encounter.

- **Unit Not Turning On:** Check the circuit breaker for the unit. Ensure the remote control batteries are functional.
- **Loud Interior Unit / Buzzing/Humming Sound:** This may indicate an issue with the fan motor. If persistent, contact customer support or a qualified technician.
- **Leaks (Water/Ice):** Check the condensate drain line for blockages. If refrigerant leaks are suspected (unit not cooling/heating effectively), immediately contact a professional HVAC technician. Refrigerant leaks require specialized repair.
- **Wi-Fi App Constantly Offline:** If the C&H Remote app frequently shows the unit as offline, try resetting the unit by flipping its dedicated circuit breaker (or disconnect switch) off for 10 seconds, then back on.
- **Wiring Discrepancies:** If wiring instructions or wire colors do not match during installation, consult the detailed installation manual or a professional installer to ensure correct and safe connections.

- **Poor Cooling/Heating Performance:** Ensure air filters are clean. Check for obstructions around indoor and outdoor units. Verify correct mode and temperature settings.

## 8. SPECIFICATIONS

Detailed technical specifications for the Cooper & Hunter Sophia Series CH-24SPH-230V-WK.



**Figure 4:** U.S. Government EnergyGuide label for the C&H Model CH-ES24-230VO heat pump split system, indicating a Cooling Efficiency Rating (SEER) of 18.90 and a Heating Efficiency Rating (HSPF) of 9.00.

Specification	Value
Brand Name	Cooper & Hunter
Model Info	CH-24SPH-230V-WK
Item Weight	206 pounds
Product Dimensions	48 x 40 x 40 inches
Efficiency (SEER)	18.9
Capacity	2 Tons (24,000 BTU)
Noise Level	33 dB
Installation Type	Split System
Form Factor	Mini-Split
Special Features	Dehumidifier, Heating And Cooling Function, Inverter Compressor, Remote Controlled, WiFi Enabled
Color	White
Voltage	230 Volts
Wattage	6824 watts

Specification	Value
Material Type	Copper, Plastic
Included Components	Indoor Wall Mount, Outdoor Condenser, Installation Kit, Remote Control, Smart Port Adapter

For more detailed specifications, refer to the comprehensive tables provided in the full product documentation.

OUTDOOR	Outdoor Model		CH-SR09SPH-115V0	CH-09SPH-115V0	CH-12SPH-115V0	CH-09SPH-230V0	CH-12SPH-230V0	CH-16SPH-230V0	CH-24SPH-230V0	CH-30SPH-230V0	CH-36SPH-230V0
	Power Supply	Rated	V, Ph, Hz	115, 1, 60	115, 1, 60	115, 1, 60	208/230, 1, 60	208/230, 1, 60	208/230, 1, 60	208/230, 1, 60	208/230, 1, 60
	Voltage Range	V	103.5-126.5	103.5-126.5	187-253	187-253	187-253	187-253			
Cooling	Rated Capacity	Btu/h	9,000	9,000	12,000	9,000	12,000	18,000	24,000	30,000	36,000
	Rated Current	A	5.2	5.8	8.4	2.9	4.05	6.1	8.4	12.5	18.5
	EER		15	13.5	12.5	14	13	13	12.5	10.5	8.5
	SEER		25	22.5	21.5	22.8	21.5	20.8	20.5	18	16
	Heating at 47°F	Rated Capacity	Btu/h	10,000	9,800	12,000	9,800	12,000	18,000	25,000	30,000
	Rated current	A	6.22	6.8	9.8	4.2	4.72	6.82	10.1	13.5	16.7
	COP	W/W	4.1	3.64	3.09	3.09	3.24	3.36	3.17	2.82	2.75
	HSPF4		10.5	10.5	11.2	10.5	9.8	10	10	9.6	10
	HSPF5		8.6	8.6	9	8.6	7.7	8	8.3	8.1	8.4
	Minimum Circuit Ampacity	A	15	15	15	10	12	15	18	20	25
	Max. Fuse	A	20	20	20	15	15	20	25	30	35
	Outdoor Air Flow (Max.)	CFM	1,120	1,176	1,120	1,060	1,120	1,470	2,355	2,235	2,235
	Outdoor Noise Level (Sound Pressure)	dB(A)	52.5	52.5	52.5	55.5	57.5	61	61	59.5	60.5
	Dimension (W×D×H)	inch	31.5x13.1x21.8	30.3x11.8x21.9	31.5x13.1x21.8	30.3x11.8x21.9	31.5x13.1x21.8	33.3x14.3x27.6	37.2x16.1x31.9	37.2x16.1x31.9	37.2x16.1x31.9
	Packing (W×D×H)	inch	36.2x15.4x24.2	35.4x13.6x23	36.2x15.4x24.2	35.4x13.6x23	36.2x15.4x24.2	38x15.6x29.7	42.9x19.7x34.5	42.9x19.7x34.5	42.9x19.7x34.5
	Net/Gross Weight	lbs.	82.7/89.2	70.3/75.4	82.7/89.2	82.7/89.2	82.7/89.2	101.0/108.2	136.7/147.3	136.7/149.9	143.7/157.6
	Refrigerant Type / Charge	oz.	R410A/40.6	R410A/38.8	R410A/40.6	R410A/38.8	R410A/40.6	R410A/68.8	R410A/82.9	R410A/82.9	R410A/120
	Refrigerant Precharge Length	ft.	25	25	25	25	25	25	25	20	20
	Additional Charge for Each ft.	oz/ft	0.16	0.16	0.16	0.16	0.16	0.16	0.32	0.21	0.21
	Design Pressure	PSIG	550/340	550/340	550/340	550/340	550/340	550/340	550/340	550/340	550/340
	Refrigerant Piping Liquid Side/Gas Side	inch	1/4" / 1/2"	1/4" / 3/8"	1/4" / 1/2"	1/4" / 3/8"	1/4" / 1/2"	1/4" / 1/2"	3/8" / 5/8"	3/8" / 5/8"	3/8" / 5/8"
	Max. Pipe Length	ft.	82	82	82	82	82	98	164	164	213
	Max. Difference in Level	ft.	33	33	33	33	33	66	82	82	98
Ambient Temperature	Cooling	°F	-13~122	-13~122	-13~122	-13~122	-13~122	-13~122	-13~122	-13~122	5~122
	Heating	°F	-13~86	-13~86	-13~86	-13~86	-13~86	-13~86	-13~86	-13~86	5~86

**Figure 5:** Detailed technical specification tables for various Cooper & Hunter mini split models. This image presents comprehensive technical specification tables for both indoor and outdoor units across different Cooper & Hunter mini split models, including data such as power supply, rated capacity in BTU/h, minimum circuit ampacity, maximum fuse, indoor air flow, noise levels, dimensions, net/gross weight, refrigerant type, and piping details.

## 9. WARRANTY INFORMATION

The Cooper & Hunter Sophia Series Mini Split AC/Heating System typically comes with a limited warranty:

- **Compressor:** 7-year limited warranty.
- **Parts:** 5-year limited warranty.

Warranty registration is important. Ensure that the installation is performed by a qualified HVAC contractor, as improper installation may void the warranty. For specific terms and conditions, please refer to the warranty card included with your product or visit the official Cooper & Hunter website.

## 10. SUPPORT

For further assistance, technical support, or service inquiries, please contact Cooper & Hunter customer service. You can typically find contact information on the official Cooper & Hunter website or in the documentation provided with your unit. The C&H Remote mobile app also offers support resources.

## IMPORTANT NOTE REGARDING VIDEOS

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Due to the absence of specific video metadata (such as creator type and file details) in the provided product information, it is not possible to embed official product videos in this manual while adhering to the strict verification requirements. Please refer to the manufacturer's official website or product page for any available instructional videos.