Airest

SHARP
Wall Mounted Heat Pump Systems
Simply Better Living

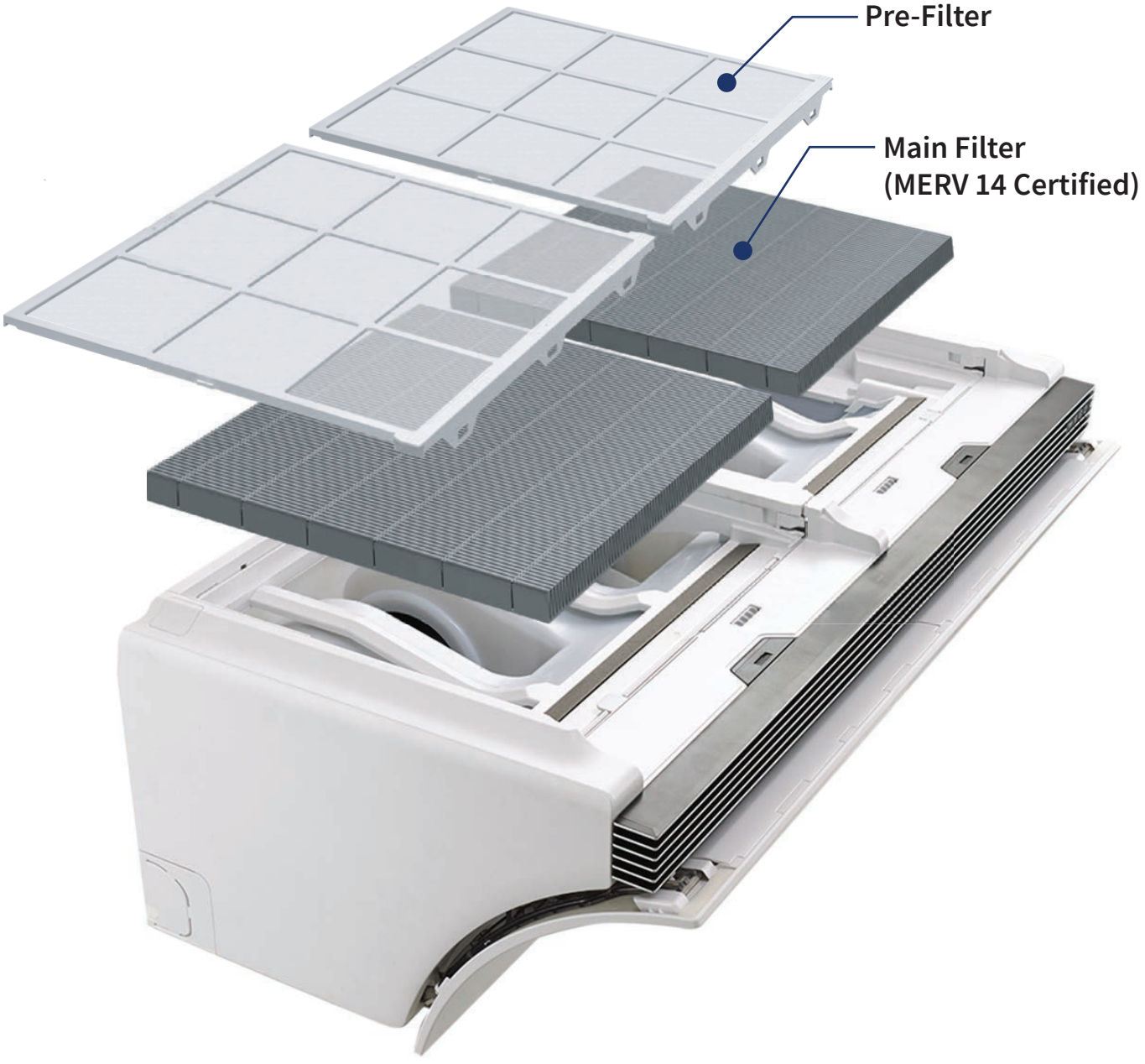
World's First Mini-Split with Built-in **MERV 14 Certified Filters**

- **MERV 14 Filter with Active Carbon**
- CADR (Clean Air Delivery Rate) Smoke (304), Dust (333), Pollen 336)
- Operate Down to -17°F (-27°C)
- 43ft long "Coanda Airflow"
- Spot Air Function
- Multi Space Function
- Safe "Hot Gas Pipe" de-icing system

Introduction Video

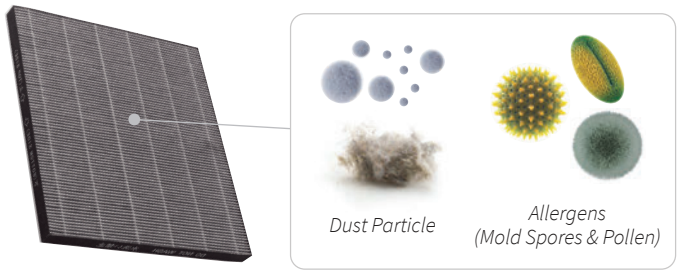
Cooling & Heating
12,000 BTU

World's 1st Mini-Split with Built-in **MERV 14 Certified Filters**



Airest Filter Protection

Blocks **99.9+%** of allergens & dust particles



Allergen & Dust Protection

The **Airest** filter captures airborne allergens and fine dust, including pollen, pet dander, mold spores, and smoke. It enhances indoor air quality for a cleaner air.

Blocking Capabilities

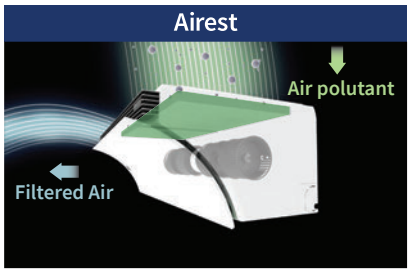
We conducted two tests in a controlled lab environment: a ***smoke removal speed test*** and a ***dust removal test***. These tests showcase its effectiveness in quickly cleaning indoor air under simulated real-world conditions.

Dust Removal Test

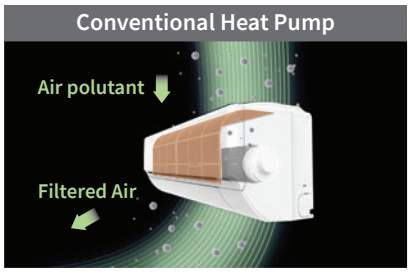
The Airest Heat Pump features an advanced filter that blocks up to 99.9% of dust and airborne pollutants, surpassing standard filters found in conventional mini-splits that allow small particles to pass through. Unlike filters of typical mini-splits, the Airest filter prevents fine dust accumulation inside the unit, which serves as a source of nutrition for mold, especially in humid conditions.

Smoke Removal Speed Test

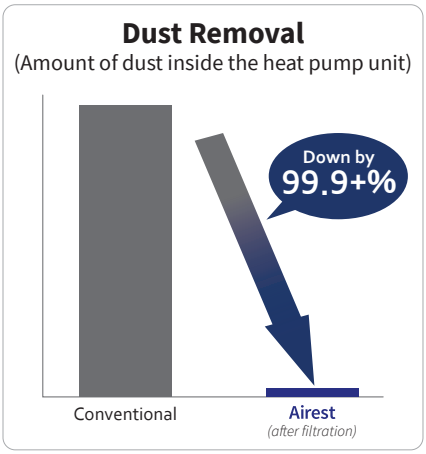
Airest removed 99% of smoke in just 13 minutes, while a competing model took 90 minutes to remove only 40%.



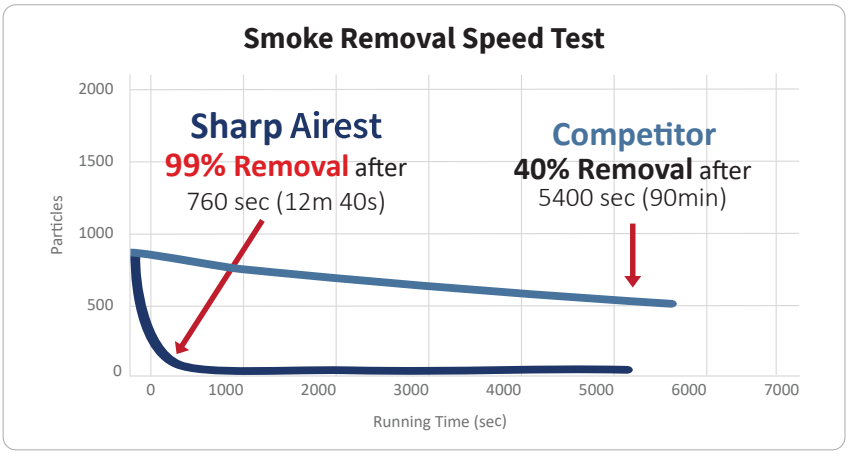
Airest airflow illustration



Conventional heat pump airflow illustration



(Test 1) Result shows average arrestance of 99.9+% for dust



(Test 2) Test Conditions: Room Size: 920 ft³ (26m³) | Particle Size: 0.1~2.5 μm | Initial Smoke Concentration: 1~5 mg/m³ (Cigarette Smoke)

Authenticity & Quality

Genuine High-Performance Filter

Airest main filter meets the MERV 14 standard, tested in accordance with ANSI/ASHRAE 52.2, which proven that the filter is able to captures up to 99% of particles in the 3.0 to 10.0 micron range, including dust, pollen, and mold spores. In addition, Airest is also the world's first mini-split vertified by AHAM as an air cleaner, confirming its high Clean Air Delivery Rate (CADR) performance with suggested room size of 471 sq ft, this certification ensures that Airest not only heats and cools effectively but also enhances indoor air quality.

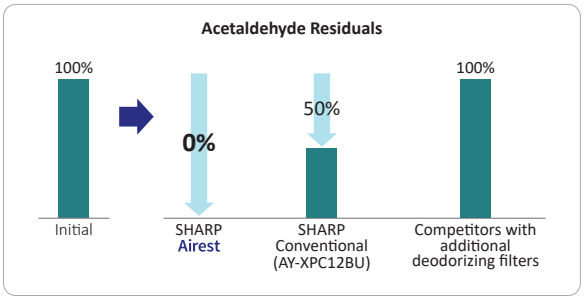
AHAM Verified Performance Certification

MERV	Composite Average Particles size Efficiency E Value (%) in Size Range		
	Range 1	Range 2	Range 3
	0.3-1.0 µm	1.0-3.0 µm	3.0-10.0 µm
14	**75-85%**	**≥90**	**≥95**
13	≥50	≥85	≥90
12	≥35	≥80	≥90
11	≥20	≥65	≥90

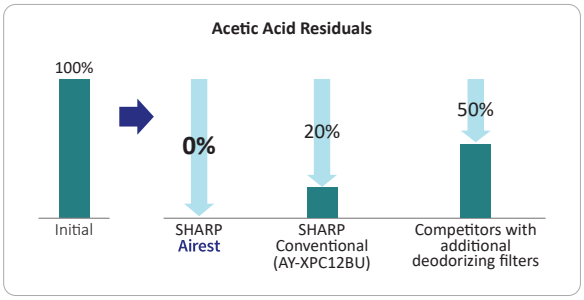
Extracted and edited from ANSI/ASHRAE - Standard 52-2-2017

Mitigating Odor with Active Carbon

The primary filter also incorporates activated carbon, engineered to reduce acetaldehyde and acetic acid residues. Compared to other competitors, Airest is able to achieve 0% residual levels of both compounds, effectively minimizing odors and maintaining a cleaner, more comfortable indoor environment.



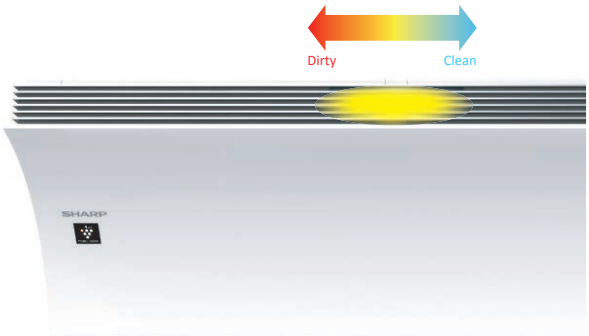
Acetaldehyde residual mitigation graph



Acetic acid residual mitigation graph

Long Life Filter

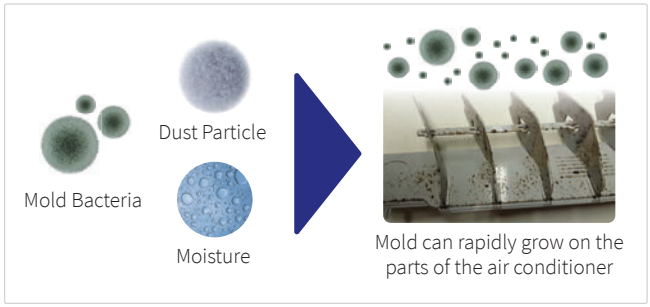
Depends on the total operating time and environment, the filter life has an approximate of 1.5 to 2 year of life usage. The indoor unit is equipped with an LED indicator to detect when it's time to change the filter and also indicate the indoor air quality by detecting the amount of dust and odor in the room.



Flashing LED for replacement alert & shifting color indicating indoor air quality

Design That Stays Clean

Prevents moisture buildup and mold growth inside the unit

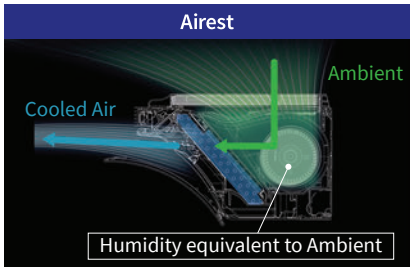


Causes of Mold Growth

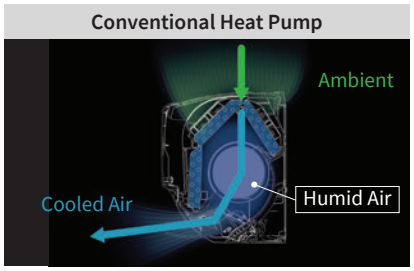
Mold can grow inside the unit when **dust**, **moisture**, and airborne **mold particles** are present. During cooling, moisture and dust build up on internal surfaces, creating ideal conditions for mold to grow, this condition can speed up mold growth especially on the heat exchanger and fan part of the unit.

Keeping it Dry Inside

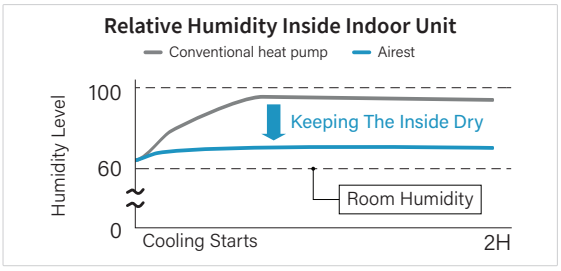
Sharp designed Airest with the heat exchanger near the air outlet, allowing ambient air to circulate inside the unit, resulting in lower humidity and preventing moisture buildup. Conventional models place it near the air inlet, where cool, humid air raises moisture levels and promotes mold growth. Our tests confirmed that Airest maintained low internal humidity and stayed dry, while conventional units remained humid, increasing the risk of mold.



Airest internal view



Conventional heat pump internal view



Relative humidity test graph between Airest & Conventional Heat Pump

Real-life Usage Comparison

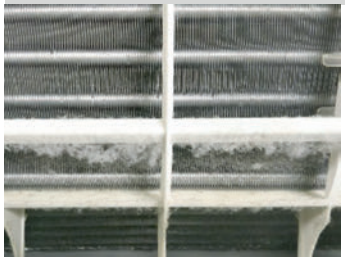
And below is a real-life comparison between an Airest unit and a conventional heat pump, both used daily for several years without any internal cleaning.

Airest

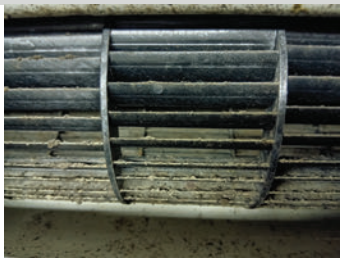
Airest's heat exchanger (after 5 years of use)

Airest's fan (after 5 years of use)

Conventional Heat Pump



Conventional heat pump heat exchanger (after 2 years of use)



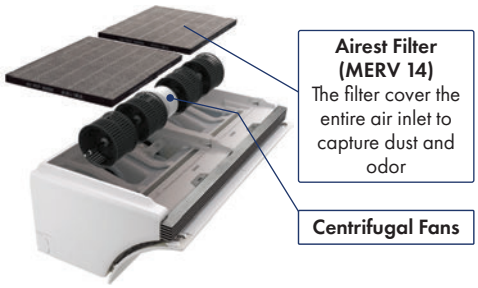
Conventional heat pump fan (after 6 years of use)

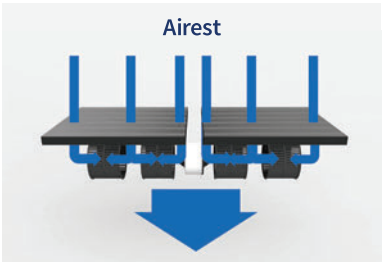
Innovative Airflow Technology

Engineered with **SHARP's** Air Purifier Technology

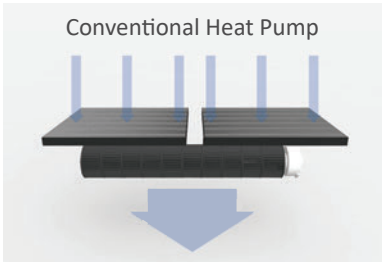
High Performance Centrifugal Fans

High-efficiency filters create greater airflow resistance, which conventional cross-flow fans often struggle to overcome. To address this SHARP has integrated **Four Powerful Centrifugal Fans** into the Airest unit. These fans generate higher static pressure, allowing air to pass through the filter more effectively. This ensures the unit maintains optimal performance and delivers clean, filtered air throughout the room.





Airest with Centrifugal Fans



Heat pump with Cross-Flow Fan

Coanda Airflow

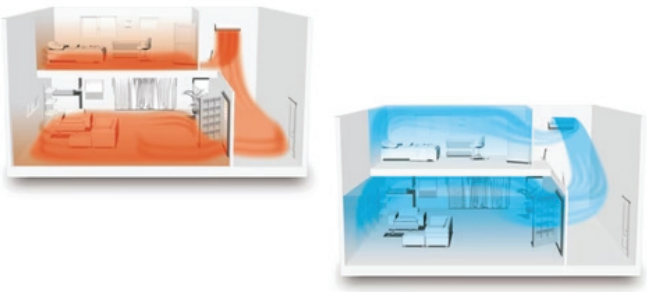
With Coanda Airflow technology, the Airest heat pump delivers air up to 43 ft across large spaces. This airflow technology ensures even, gentle airflow without blowing directly on your body.

3 in 1 Heating + Cooling + Air Purification
Year-Round Comfort and Clean Air

The Sharp Airest Heat Pump has three airflow modes for year-round comfort. **Cool Mode** directs air along the ceiling for gentle, even cooling, while **Heat Mode** delivers warm air to the lower part of the room. **Air Purifier Mode** automatically adjusts airflow based on room conditions to remove dust and allergens. In all modes, air passes through the built-in MERV 14 filter, maintaining cleaner indoor air.

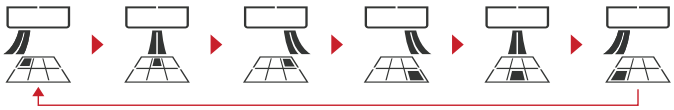
Multi Space

The Multi Space function extends airflow beyond the main room to nearby areas like living rooms or hallways. While effectiveness depends on the room layout and structure, it adjusts airflow direction and fan speed to reach adjacent spaces, making it ideal for open layouts or homes with limited installation space by reducing the need for multiple units.



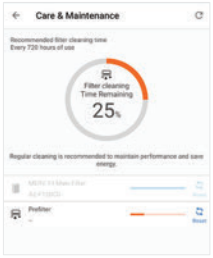
Targeted Airflow by Spot Air

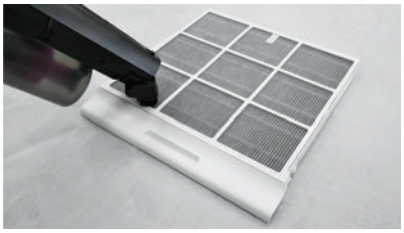
The Spot Air function delivers a concentrated stream of air directly to a specific area in the room for efficient cooling or heating. By dividing the room in six areas and choosing the area by remote control, this function enables quick temperature adjustments and comfort.

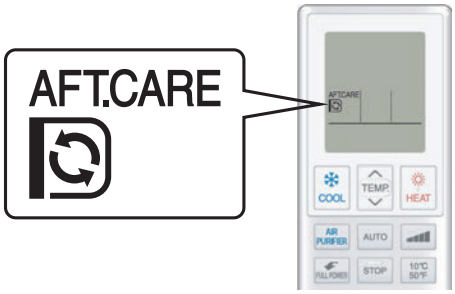


Easy Maintenance

Airest makes maintenance simple. Just slide out the filter brackets and clean them using a handheld vacuum. The process takes only a few minutes and is recommended every six months. When connected to your home Wi-Fi, the SHARP AIR App will also notify you when it's time to clean or replace the filters, so you never forget.







AFTER CARE Function

After cooling stops, Airest automatically switches to AFTER CARE mode, which dries the inside of the unit. This helps remove residual moisture, reducing the risk of mold growth and odors while keeping the interior clean.

Specifications

Indoor Unit

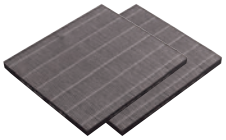
AY-XP12CPU

Outdoor Unit

AE-X12CPU

Other Parts

Remote Control



Replacement Filters
AZ-F120CU

-17°F Proven & Tested

R32 Refrigerant

10 YEARS WARRANTY COMPRESSOR

10 YEARS WARRANTY PARTS

Features

Coanda Airflow
Direct warm air downward and cool air upward, no direct wind to your face.

Spot Air
Airflow toward your desired spot saves total energy consumption

Multi Space
Circulate the conditioned air in order to balance the room temperature in adjacent rooms.

4-way Auto Louver
Automatic vertical and horizontal airflow is available.

50°F (10°C) Function
Keeps room temperature at 50°F (10°C) to prevent freezing of the room when you are away from home for a long time

Full Power Mode
Air conditioner works at maximum power for rapid room cooling and heating

Auto Restart
Automatically restart with the same setting as before the power was cut.

Eco Mode
Air conditioner operates with lower power consumption than usual in this mode.

After Care
Dries out the inside of the unit to reduce the chance of mold growth and odor

OD Slient
Keeps down the operation sound of the outdoor unit.

Timer
In addition to 24H On/Off timer, 1-2-3-5h Off timer allow you to turn off the unit at your desired time easily.

Hot Gas Pipe
Utilize unused heat generated from heating to keep the outdoor unit from freezing.

Specifications < Single Zone Model >

		Indoor Unit	Outdoor Unit
		AY-XP12CPU	AE-X12CPU
AHRI Number		216624517	
Rated cooling capacity		12,500 (2,800 - 13,600)	
Rated heating (federal)		14,000 (3,200 - 17,000)	
Max heating capacity	at 5°F (-15°C)	12,500	
	at -4°F (-20°C)	10,600	
	at -13°F (-25°C)	9,000	
	at -17°F (-27°C)	8,200	
EER2		12.1	
SEER/SEER2		20.0 / 21.0	
HSPF / HSPF2 (IV)		11.5 / 10.5	
HSPF / HSPF2 (V)		9.0 / 8.0	
COP at 5°F (-15°C)		2.1	
Power Supply		208 / 230V, 1-Phase, 60Hz	
Max Fuse Size (A)		20A	
Sound Pressure (dB)	Cooling (IDU)	48 / 42 / 36 / 25	
	Cooling (ODU)	49	
	Heating (IDU)	48 / 42 / 37 / 34	
	Heating (ODU)	50	
Airflow Rate (cfm)	Cooling	406 / 378 / 290 / 219 / 124	
	Heating	406 / 378 / 290 / 233 / 208	
Operating Range	Cooling	14 to 115°F (-10 to 46°C)	
	Heating	-17 to 75°F (-27 to 24°C)	
Pipe Diameter		1/4 x 3/8	
Refrigerant		R32	
Ref. Volume oz (g)		35.3 (1,150)	
Pipe lenght ft (m)		10 (3) - 25 (7.6)	
w/ add. refrigerant		25 (7.6) - 66 (20)	
Max height difference ft (m)		33 (10)	
Add charge oz/ft (g/m)		0.09 (8)	

Measurements

		AY-XP12CPU	AE-X12CPU
Unit Dimension	Width in (mm)	31 27/64 (798)	30 23/32 (780)
	Height in (mm)	10-61/64 (278)	21-1/4 (540)
	Depth in (mm)	17-19/32 (447)	10-19/32 (269)
Net Weight lbs (kg)		38 (17)	66 (30)
Package Dimensions	Width in (mm)	34 -29/64 (875)	36-5/16 (922)
	Height in (mm)	14 -29/64 (515)	23-3/4 (603)
	Depth in (mm)	20-9/32 (370)	15-15/32 (393)
Gross Weight lbs (kg)		42 (19)	71 (32)

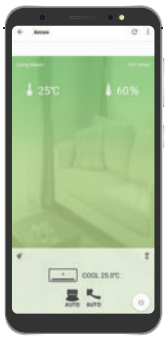
Design and specification are subject to change without prior notice and without any obligations.

Applications

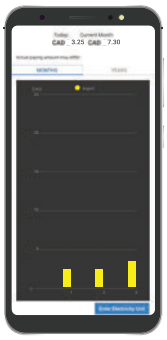
SHARP AIR Mobile App

GET IT ON Google Play

Download on the App Store



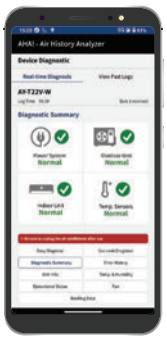
Remote Control



Energy Usage Tracking

AHA! Air History Analyzer

Heat Pump Maintenance Companion App



Quick Diagnose

Data Archive