

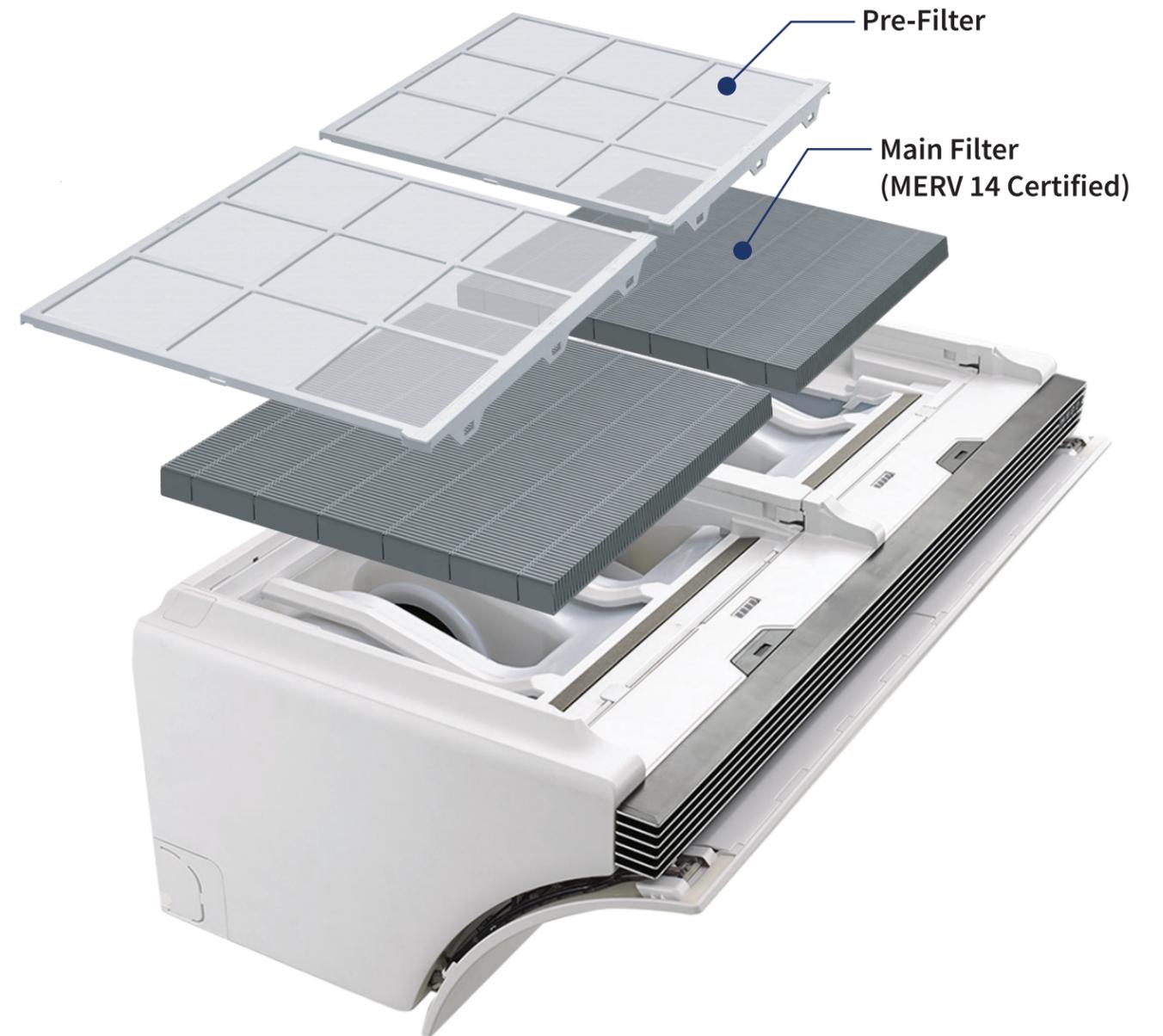
Airest

SHARP
Wall Mounted Heat Pump Systems
Simply Better Living

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



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





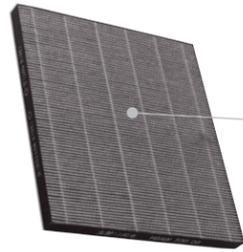
Airest Filter Protection

Blocks 99.9+% of allergens & dust particles



Authenticity & Quality

Genuine High-Performance Filter



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

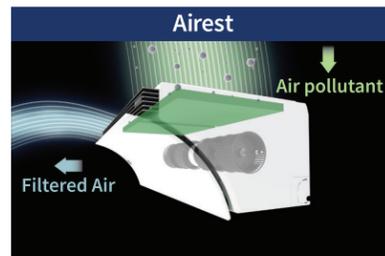
We conducted two tests in a controlled lab environment: a **smoke removal speed test** and a **dust removal test**. These tests showcase its effectiveness in quickly cleaning indoor air under simulated real-world conditions.

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

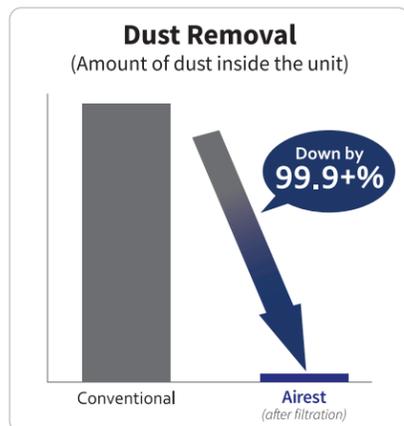
Airest removed 99% of smoke in just 13 minutes, while a competing model took 90 minutes to remove only 40%.



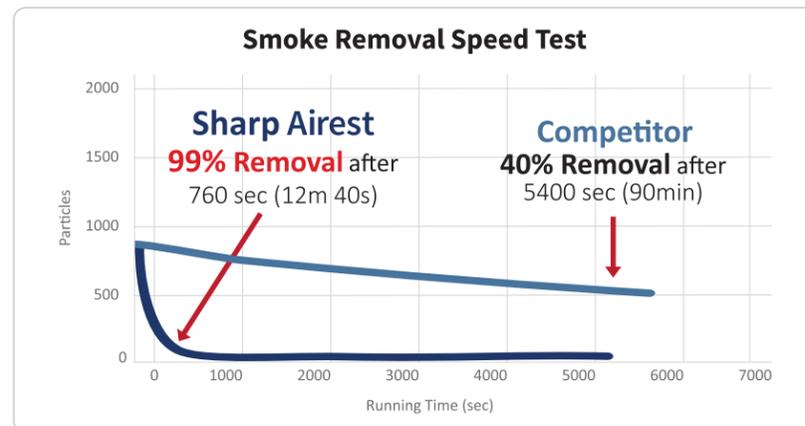
Airest airflow illustration



Conventional mini-split airflow illustration



(Test 1) Result shows average arresntance 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)



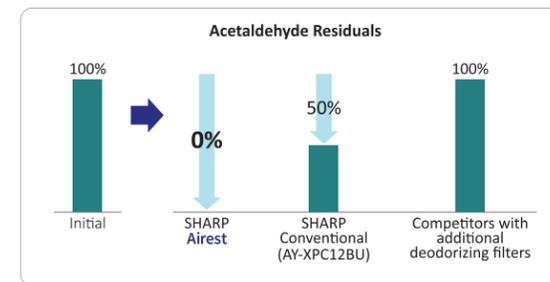
AHAM Verified Performance Certification

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

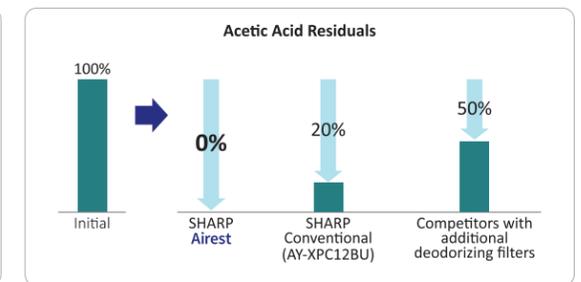
Extracted and edited from ANSI/ASHRAE Standard 52.2-2017

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.



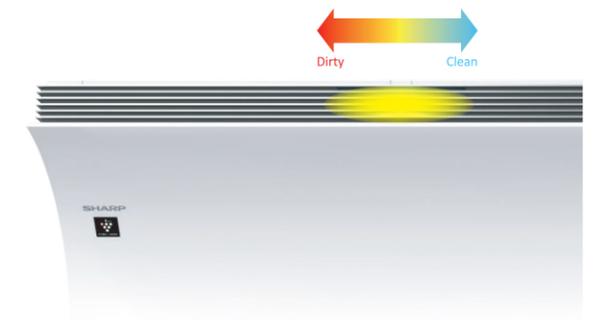
Acetaldehyde residual mitigation graph



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



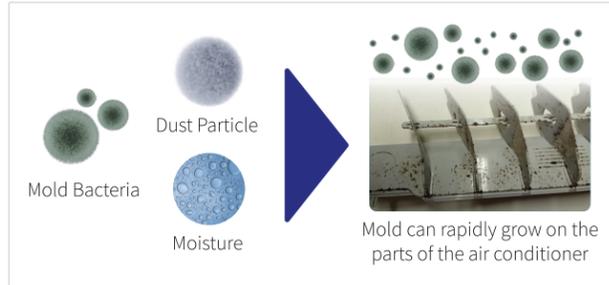
Design That Stays Clean

Prevents moisture buildup and mold growth inside the unit



Innovative Airflow Technology

Engineered with SHARP's Air Purifier Technology

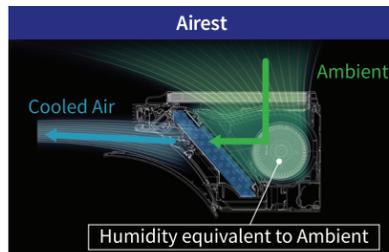


Causes of Mold Growth

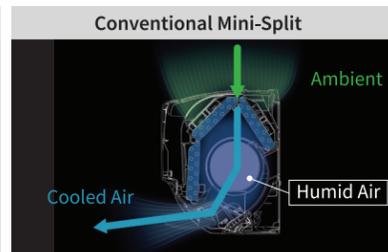
Mold can grow inside the unit when **dust, moisture**, and airborne **mold particles** are present. During cooling, moisture and dust build up on internal surfaces, creating ideal conditions for mold to grow, this condition can speed up mold growth especially on the heat exchanger and fan part of the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

Keeping it Dry Inside

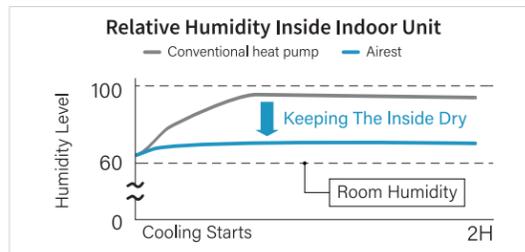
Sharp designed Airest with the heat exchanger near the air outlet, allowing ambient air to circulate inside the unit, resulting in lower humidity and preventing moisture buildup. Conventional models place it near the air inlet, where cool, humid air raises moisture levels and promotes mold growth. Our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



Airest internal view



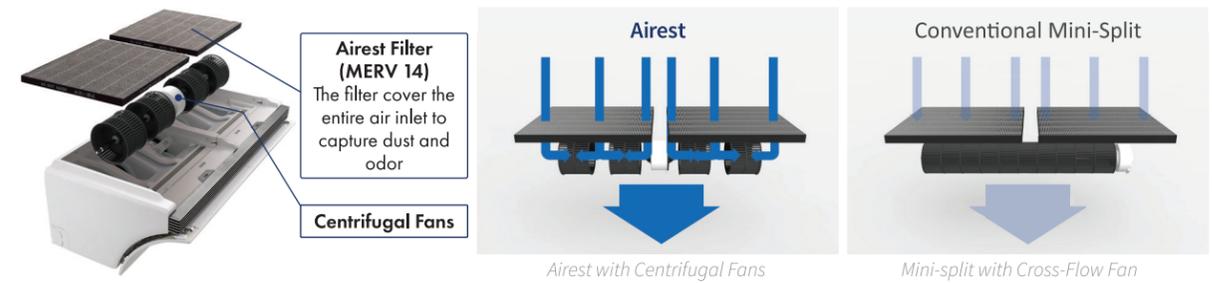
Conventional mini-split internal view



Relative humidity test graph between Airest & Conventional Heat Pump

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.



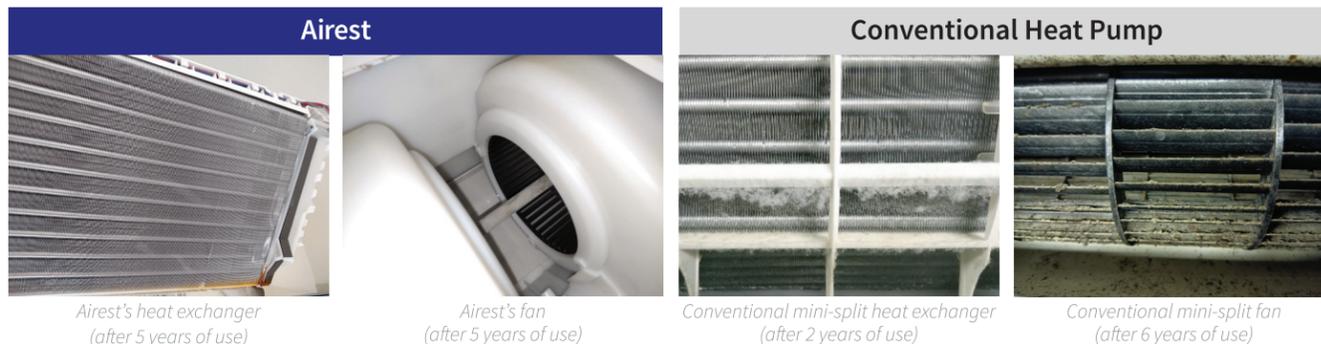
Coanda Airflow

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.



Real-life Usage Comparison

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



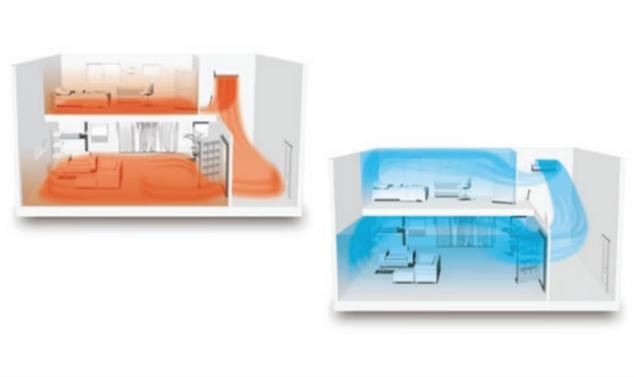
3 in 1 Heating + Cooling + Air Purification Year-Round Comfort and Clean Air

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.



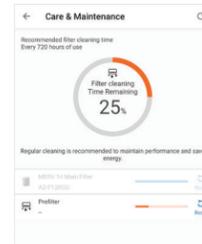
Targeted Airflow by Spot Air

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.



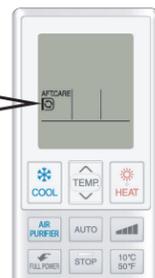
Easy Maintenance

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.



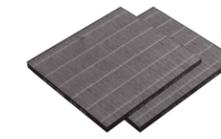
Indoor Unit



Outdoor Unit



Other Parts



Features

- Coanda Airflow**
Direct warm air downward and cool air upward, no direct wind to your face.
- Multi Space**
Circulate the conditioned air in order to balance the room temperature in adjacent rooms.
- 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.
- Auto Restart**
Automatically restart with the same setting as before the power was cut.
- After Care**
Dries out the inside of the unit to reduce the chance of mold growth and odor.
- 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.
- Spot Air**
Airflow toward your desired spot saves total energy consumption.
- 4-way Auto Louver**
Automatic vertical and horizontal airflow is available.
- Full Power Mode**
Air conditioner works at maximum power for rapid room cooling and heating.
- Eco Mode**
Air conditioner operates with lower power consumption than usual in this mode.
- OD Slient**
Keeps down the operation sound of the outdoor unit.
- 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 length 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

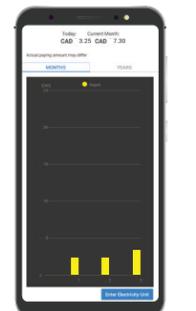
		AY-XP12CPU	AE-X12CPU
		Unit Dimension	Width in (mm)
	Height in (mm)	10-51/64 (278)	21-1/4 (540)
	Depth in (mm)	17-19/32 (447)	10-19/32 (269)
	Net Weight lbs (kg)	38 (17)	66 (30)
Package Dimensions	Width in (mm)	34 -29/64 (875)	36-5/16 (922)
	Height in (mm)	14 -29/64 (515)	23-3/4 (603)
	Depth in (mm)	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



Remote Control

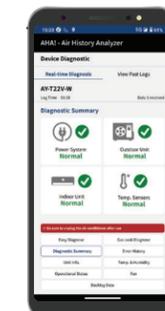


Energy Usage Tracking

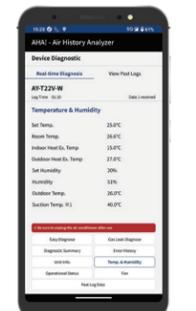


AHA! Air History Analyzer

Heat Pump Maintenance Companion App (For Contractors)



Quick Diagnose



Unit Status