H3/V3 Series

Horizontal and Vertical
Indoor Air Handling Units
450-10,000 cfm

Air-Source Heat Pumps

Split Systems

AAON®

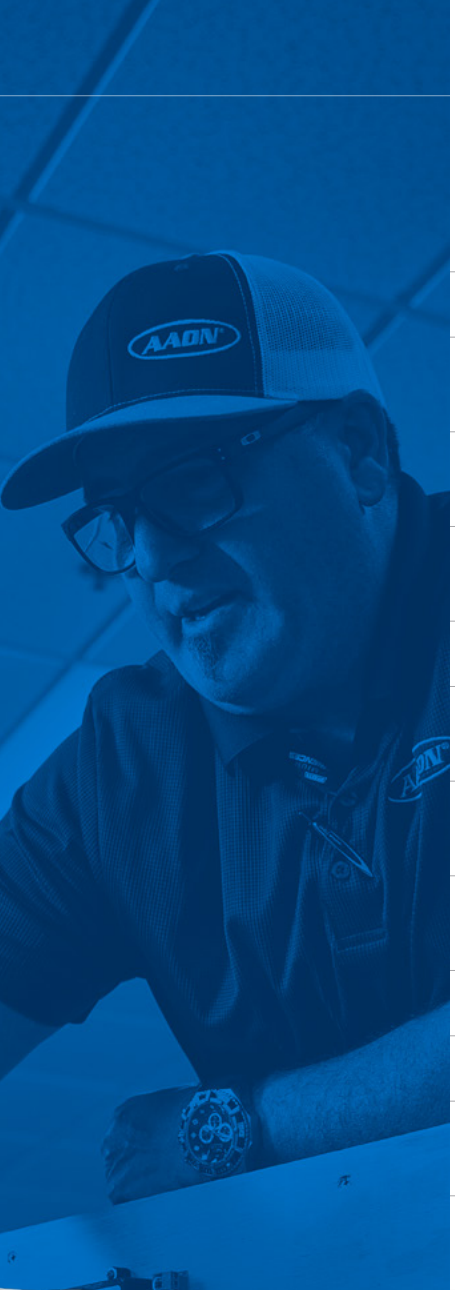
H3/V3 SERIES

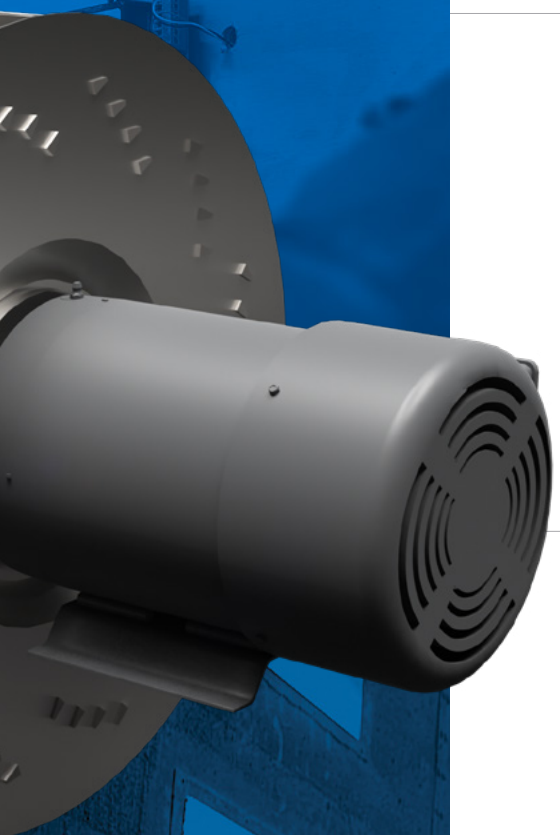
H3/V3 Series

Discover unparalleled versatility with AAON H3/V3 Series air handling units. Engineered for superior performance in diverse environments, these units seamlessly integrate into applications like schools, healthcare buildings, and dynamic office spaces. The H3/V3 Series features standard double wall rigid polyurethane foam panel construction and direct drive backward curved plenum fans for quiet, energy-efficient operation.

450-10,000 cfm

Experience a new standard in air handling with AAON's H3/V3 Series – where innovation meets adaptability for outstanding performance.





Standard Features

- Horizontal and vertical models from 450-10,000 cfm
- Available as a chilled water, or non compressorized DX air handling unit, 450-10,000 cfm
- Constant Volume, VAV, Single Zone VAV, and Makeup Air applications with up to 100% outside air
- Split system heat pump configuration enables pairing with an air-source heat pump condensing unit to achieve energy efficient heating and cooling
- Double wall rigid polyurethane foam panel construction
- The V3 Series is designed to maneuver easily through doorways, compact closets, mechanical rooms, and narrow clearances
- The H3 Series extremely low horizontal profile ensures uniform height compatibility for overhead ceiling applications
- Double sloped stainless steel drain pans for effective drainage and prevention of standing water that can lead to corrosion and bacterial growth
- Direct drive backward curved plenum fans
- Access doors with full-length stainless steel piano hinges or removable pin hinges
- LED service lights in the control panel, operated by an on/off toggle switch, offer enhanced visibility and ease of maintenance
- Run test report, wiring diagram, and Installation, Operation, and Maintenance manual with startup provided with every unit

IE5 PERMANENT MAGNET MOTOR SUPPLY FAN

The H3 and V3 Series feature supply fans are designed around new permanent magnet motor technology. These hybrid motors incorporate a synchronous reluctance rotor with permanent magnets to achieve an International Efficiency rating above IE5, which is the highest level of efficiency today.

The advantages of the Hybrid Permanent Magnet Motor are even more significant at the lower fan speeds, due to the reduced load (rpm) where variable air flow fans will operate during a majority of the time. NEMA (National Electrical Manufacturers Association) motor frames are available in certain selections.

Permanent Magnet Motor

Construction and Serviceability

INTERNAL CONTROL PANEL (H3)

The internal control panel centralizes all low voltage controls within the air handling unit. For H3 Series units, blower access can be gained through the top of the unit, and all three access points share interchangeable duct flanges and access panels.

REMOVABLE INTERNAL CONTROL PANEL (V3)

The removable internal control panel not only keeps all low voltage controls internal to the air handling unit but also simplifies maintenance by providing single-side access to all components. This versatile panel section can be easily detached by releasing the quick connects and unbolting four bolts, streamlining maintenance and serviceability. V3 Series units offer blower access through the left or right access depending on unit orientation selection.

EXTERNAL CONTROL PANEL

An optional external control panel for both H3 and V3 provides additional space for electric heat controls and various control features and options.

LOWER MAINTENANCE COST

Enjoy hassle-free maintenance with service access doors with lockable quarter-turn handles, LED service lights in the control panel, and labeled components with color-coded wires and wiring diagrams. These features simplify the servicing process, saving you time and effort.

RELIABILITY

H3/V3 air handling units are crafted for longevity with construction features like double-wall rigid polyurethane foam panels and sturdy access doors. Factory-engineered, designed, and installed options provide inherent reliability, surpassing field-installed add-ons. AAON's robust air handling solutions deliver peace of mind and lasting performance.

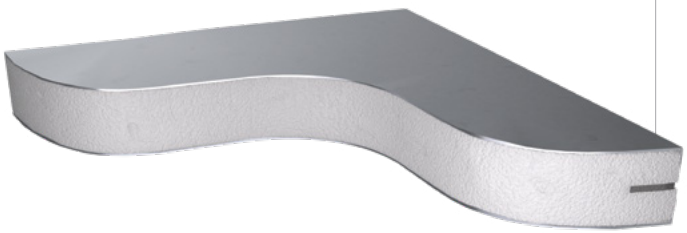
EASE OF INSTALLATION

Our units are crafted with your convenience in mind. Engineered to pass through standard 36-inch wide by 80-inch tall doors, they are ideal for new installations and retrofit applications. The unit design streamlines the installation process with components like E cabinet filters, energy recovery wheels, and mixing box units that can be shipped to you in a split configuration.

INCREASED THERMAL RESISTANCE

Double wall rigid polyurethane foam-injected cabinet panel increases thermal resistance, reduces air leakage, and attenuates radiated sound. Thermal break reduces heat transfer between interior and exterior metal cabinet walls.

Optional external control panel



Thermal break

Configurability

SINGLE ZONE VAV

A single zone VAV system utilizes variable capacity or variable speed compressor technology as well as modulating controlled supply fans to accurately control the cooling and humidity levels within the space. This is a great option for applications with varying sensible and latent loads.

AMCA CERTIFIED LOW LEAKAGE DAMPERS

Factory installed, sensible or enthalpy, gear driven economizer allows for free cooling. Gear driven economizer eliminates the excess play and bind that occurs with linkage type economizers. Standard AMCA certified and labeled AAON low leakage dampers meet the California Title 24 damper air leakage requirement.

WIDE CFM RANGE & STATIC

H3/V3 Series air handling units offer a broad capacity range, spanning from 450 to 10,000 cfm. These units feature overlapping cabinet sizes, ensuring a precise match to your specific requirements. Thanks to their backward-curved plenum fans, they also deliver excellent static pressure control, offering flexibility in various system setups.

MAKEUP AIR CAPABILITY AND DEDICATED OUTDOOR AIR SYSTEM (DOAS)

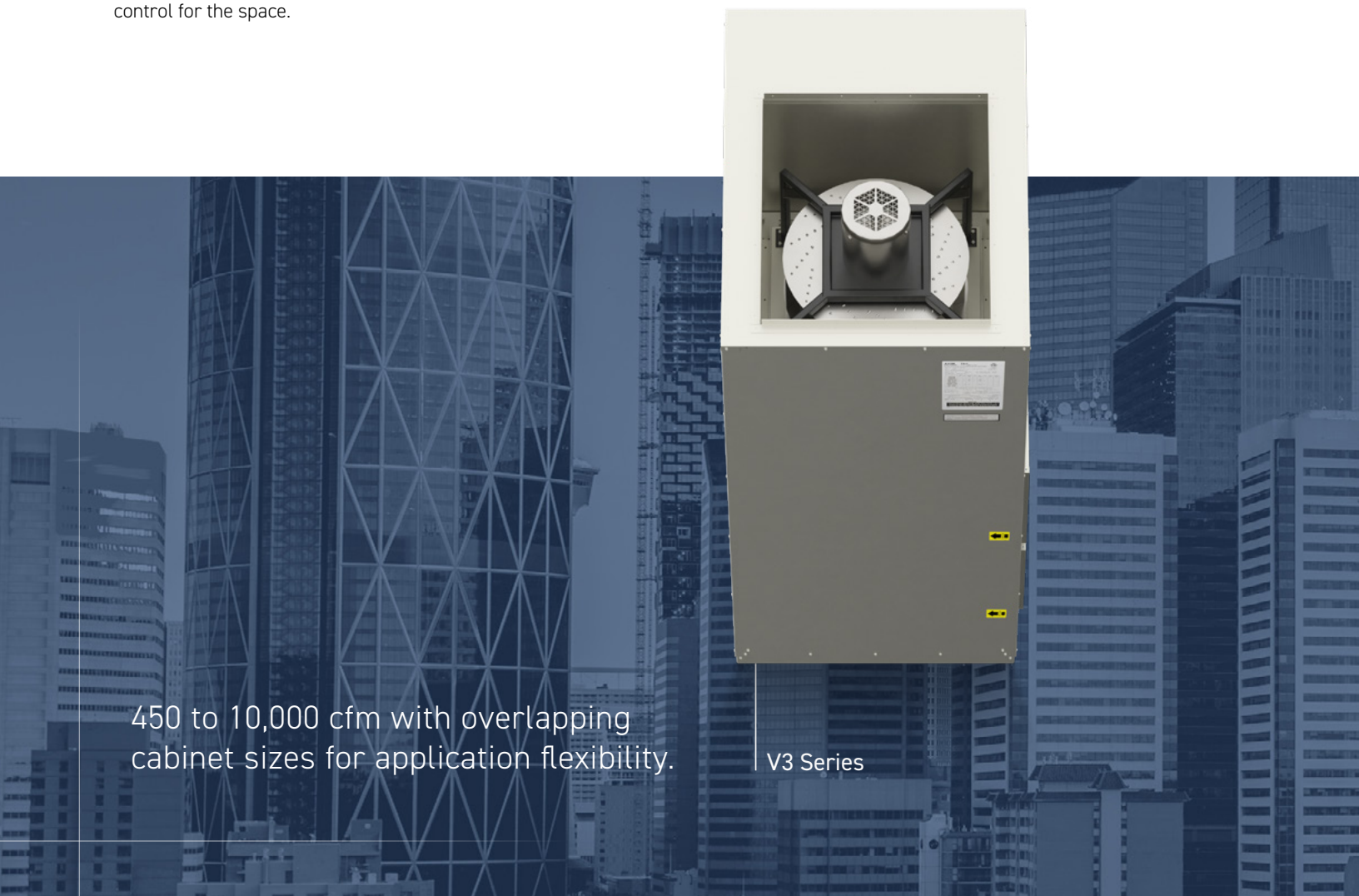
Improve airflow and air quality by selecting a unit with makeup air capabilities and low leakage AAON economizers, allowing up to 100% outside air. This can be achieved with the use of AAON low leakage economizers. Add modulating reheat to make the unit DOAS certified, providing accurate humidity control for the space.

AIR HANDLING UNIT OPTIONS

AAON H3/V3 Series air handling units can be set up as an air handling unit with chilled water or hot water coils. Gas, electric, and steam are also options for heating control. These units can be paired with a remote condensing unit set up in a different location.

FLEXIBILITY

AAON's air handling units excel in a diverse range of applications, from educational facilities and healthcare buildings to office spaces and beyond. Packed with premium features and customizable options, AAON delivers versatile air handling solutions designed to meet your unique needs.



450 to 10,000 cfm with overlapping cabinet sizes for application flexibility.

V3 Series

Options

- Split system modulating hot gas reheat humidity control option is available with a matching condensing unit to provide precise humidity control
- Multiple high efficiency air filtration options for improved indoor air quality by reducing airborne allergens and pollutants
- Factory installed mixing boxes for application flexibility
- AMCA certified and labeled low leakage economizer dampers utilize outdoor air for cooling under certain conditions
- Factory installed AAONAIRE® total and sensible energy recovery wheels for pre-conditioning air, reducing the heating and cooling loads
- Modulating gas heat with stainless steel heat exchanger for improved energy efficiency and enhanced durability
- SCR (Silicon Controlled Rectifier) electric heat control for reduced power consumption, longer heater life, and improved occupant comfort
- Hot water or steam heating coils allow unit to tie into new or existing boiler system
- Corrosion resistant polyurethane paint exceeds a 2,500 hour salt spray test
- Polymer e-coated coils for corrosion protection
- Return and supply side firestat and smoke detector options for additional safety
- Phase and Brownout for protection against voltage imbalance
- 10, 35, or 65 KAIC electrical rating available
- Different paint color options available for unit customization
- Additional customization is available by request for further flexibility in design
- Chilled water cooling coils allow unit to tie into new or existing chilled water system

H3 Series

Low GWP Refrigerant

AAON selected R-454B, a sub 500 GWP refrigerant, to drive the industry towards a cleaner and more sustainable future.

AIM ACT COMPLIANT

The AIM Act of 2020 empowered the U.S. Environmental Protection Agency to manage Hydrofluorocarbons (HFCs) and regulate refrigerants based on global warming potential (GWP). GWP was developed to compare refrigerants' impact on global warming. The final ruling mandating all new air conditioners to use refrigerants with a GWP below 700 is anticipated to begin January 1, 2025.

AAON thoroughly researched and tested low GWP refrigerants and selected R-454B for its similarity to R-410A in capacity and properties, requiring less product redesign. With a GWP of 466, R-454B is well below the upcoming regulation limits.

Heat Pumps

H3/V3 Series offers split system heat pump configuration that allows matching with an air-source heat pump condensing unit for energy efficient heating and cooling.

AIR-SOURCE HEAT PUMP

Air-source heat pumps use the outdoor air as the heat transfer medium. This system provides heat pump efficiency benefits and does not require a water loop.

ENERGY EFFICIENT SPLIT SYSTEMS

AAON split systems, when paired with our condensing units, deliver consistent comfort while keeping energy consumption low. The combination of double wall foam-insulated construction and direct-drive backward-curved plenum fans sets a high standard for performance, ensuring both efficiency and comfort.

The V3 Series energy recovery unit includes three modules: the exhaust air section, the energy recovery wheel and return air section, and the supply air fan and coil section. Low voltage quick connects make wiring split modules simple and fast.

AHRI CERTIFIED®

Indoor Air Quality

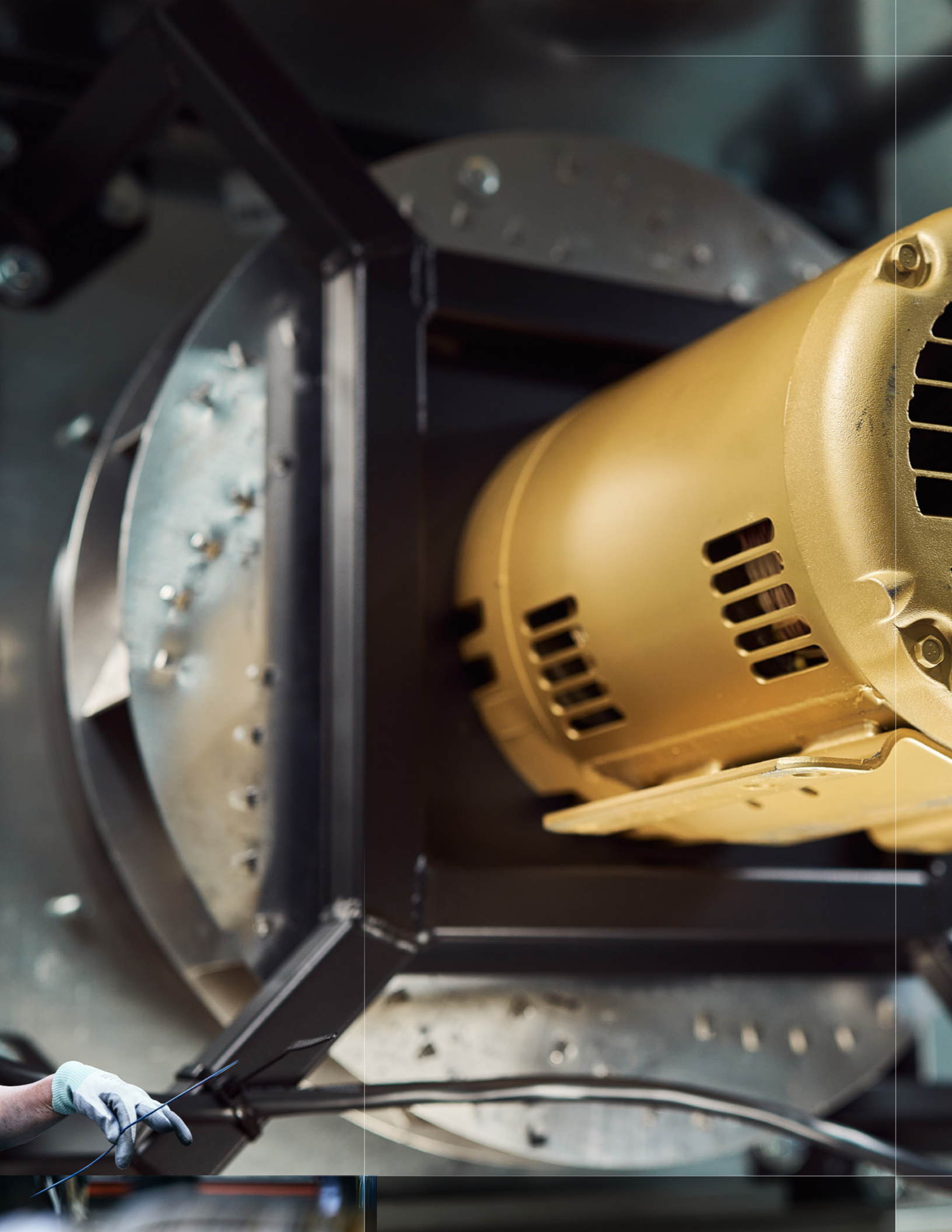
The quality of air inside a building impacts the health and cognition of those inside. AAON standard design and rooftop equipment options improve indoor air quality.

FILTRATION

ASHRAE recommends using a minimum of MERV 13 filter to effectively trap viruses more effectively. This option is available on all sizes of rooftop equipment and the standard backward curved supply fans are capable of handling the additional static pressure associated with the higher quality filtration. AAON offers up to MERV 14 pleated air filters.

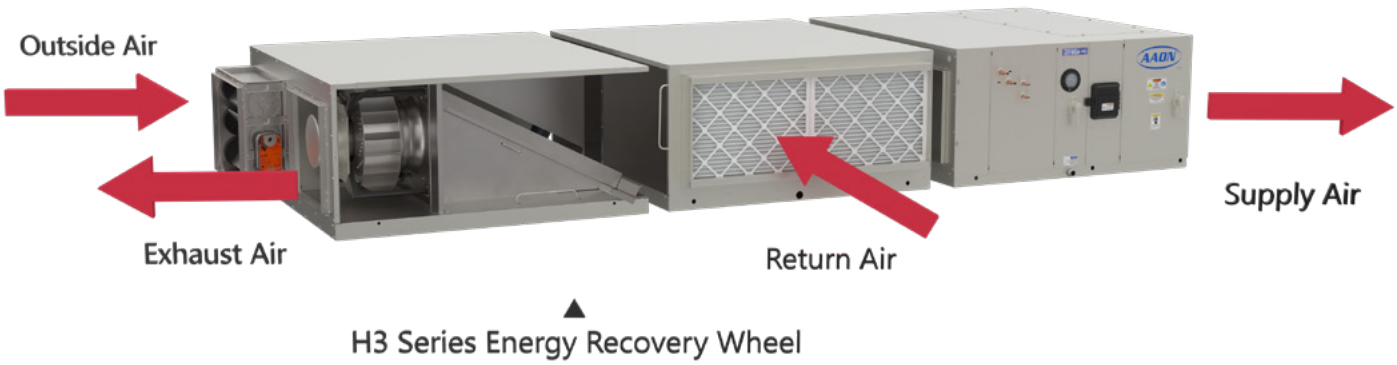
AAONAIRE® ENERGY RECOVERY WHEEL

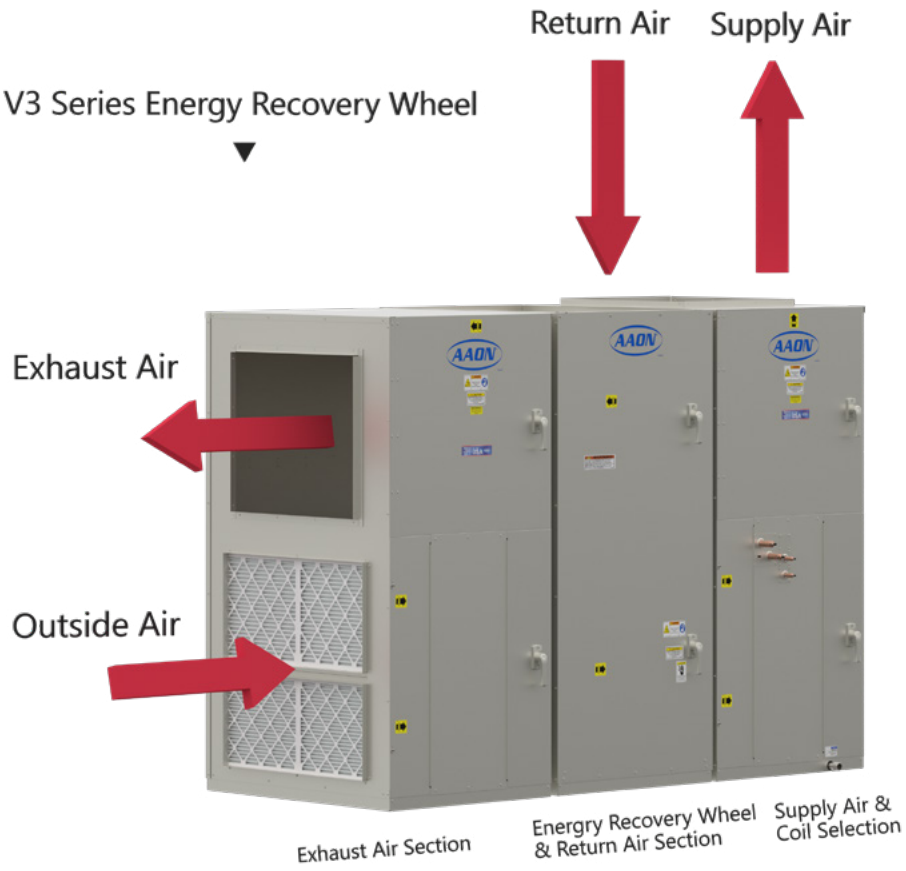
Sensible only or enthalpy energy recovery wheels can be used to pre-condition the outside air which can greatly improve energy savings and reduce unit operation cost, especially on makeup air units. Energy recovery wheels are offered as polymer or aluminum construction with removable segments for quick cleaning.



Energy Recovery Wheel

The H3 and V3 Series offer easy-to-connect split modules, designed primarily for streamlined transportation and installation. Low voltage quick connects simplify wiring, ensuring easy installation.





H3 Series		
Configuration	Horizontal	
Nominal cfm	A	450 - 1,200
	B	1,000 - 2,000
	C	1,800 - 4,000
	D	3,000 - 6,000
	E	5,200 - 10,000
Dimensions*	A	W: 30, H: 22, L: 57
	B	W: 42, H: 22, L: 57
	C	W: 60, H: 27, L: 60
	D	W: 84, H: 27, L: 57
	E	W: 100, H: 34, L: 60

The H3 Series low horizontal profile guarantees consistent height compatibility for overhead ceiling applications, while providing an airflow capacity ranging from 450 to 10,000 cfm.

**Dimensions vary depending on options selected. All dimensions are in inches. Design cfm may be 30-50% greater or less than nominal cfm.*

V3 Series		
Configuration	Vertical	
Nominal cfm	A	450 - 1,200
	B	1,000 - 2,000
	C	1,800 - 4,000
	D	3,000 - 6,000
	E	5,200 - 10,000
Dimensions*	A	W: 30, H: 43, L: 33
	B	W: 30, H: 53, L: 33
	C	W: 42, H: 73, L: 33
	D	W: 56, H: 75, L: 35
	E	W: 56, H: 92, L: 56

The V3 Series is engineered for easy maneuverability through doorways, compact closets, mechanical rooms, and tight spaces, while offering an airflow capacity ranging from 450 to 10,000 cfm.

**Dimensions vary depending on options selected. All dimensions are in inches. Design cfm may be 30-50% greater or less than nominal cfm.*

AAON

Built to last.
Built for you.

There's a confidence that comes from knowing you've chosen the best. Because our operations are as efficient as our HVAC systems, you get premier AAON quality at a reasonable price. Outstanding serviceability and support create lifetime AAON customers.

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