RenewAire®
Energy Recovery Ventilation

ERV

# SA SERIES

## ENERGY RECOVERY CORE ARRAY CATALOG

**SEPTEMBER 2021**

RENEWAIRE.COM | 800.627.4499

# BECAUSE INDOOR AIR QUALITY MATTERS

As buildings become more airtight due to better construction methodologies, the need for increased and balanced ventilation is critical. Without it, internally generated contaminants accumulate and cause **deficient indoor air quality** (IAQ), which leads to significant health and cognitive problems for occupants. Industry standards are changing to combat deficient IAQ, and codes that adopt these new standards are driving the application of Energy Recovery in ventilation strategies. Deficient IAQ is a serious problem, especially considering:

- On average, Americans spend 90% of their time indoors
- The EPA found that indoor air may be 2–5 times — and occasionally greater than 100 times — more polluted than outdoor air
- The EPA ranks indoor air pollutants as a top-five environmental health risk to occupants




## ADVERSE EFFECTS OF **DEFICIENT IAQ**

Deficient IAQ has numerous adverse effects on the health and cognitive function of building occupants.

**Health problems:** Acute allergies, headaches, coughs, asthma, skin irritations and breathing difficulties, as well as chronic illnesses such as cancer, liver disease, kidney damage and nervous-system failure.

**Cognitive impairment:** Studies by the Harvard School of Public Health and the Lawrence Berkeley National Laboratory found that carbon dioxide ($CO_2$) — an indoor air contaminant — negatively impacted thinking and decision-making at levels commonly found inside homes and buildings.

## ABOUT RENEWAIRE

For over 30 years, **RenewAire has been a pioneer in enhancing IAQ** in commercial and residential buildings of every size. This is achieved while maximizing sustainability through our fifth-generation, enthalpic-core, static-plate Energy Recovery Ventilators (ERVs) & Dedicated Outdoor Air Systems (DOAS) that **optimize energy efficiency**, lower capital costs and **decrease operational expenses** by reducing HVAC loads therefore minimizing equipment needs, resulting in significant energy savings. Our ERVs/DOAS are competitively priced, simple to install, easy to use and maintain, have a quick payback and enjoy the industry's best warranty with the lowest claims due to long-term reliability. In 2010, RenewAire joined the Soler & Palau (S&P) Ventilation Group, providing direct access to the latest in energy-efficient air-moving technologies. For more information, visit: **renewaire.com.**

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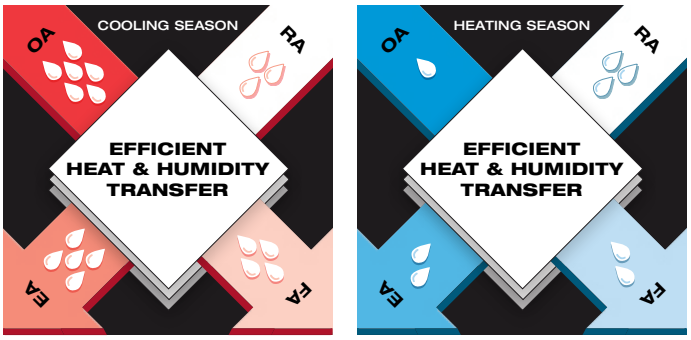
## SA SERIES - Applied

# RENEWAIRE ERVs
# ACHIEVE SUSTAINABLE IAQ

RenewAire is a **pioneer in enhancing IAQ** while maximizing sustainability through enthalpic-core, static-plate Energy Recovery Ventilators (ERVs) that **optimize energy efficiency, lower costs by reducing HVAC loads and therefore reduce environmental footprints**. Our ERV technology preconditions incoming air with the otherwise-wasted energy (heat and humidity) of the exhaust air going out — all while the airstreams are kept physically separate as certified by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) for low-to-zero Exhaust Air Transfer Ratio (EATR) at typical static pressure differentials. As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA.

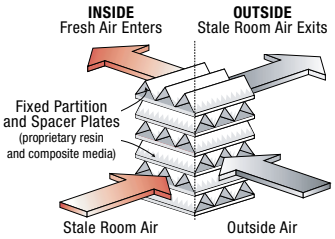
## OPTIMIZING ENERGY EFFICIENCY

Energy efficiency is optimized by preconditioning the outside air coming in with the **otherwise-wasted heat and humidity** of the exhaust air going out. This exchange of energy moderates temperatures and moisture, decreases HVAC equipment needs, drives operational efficiencies and conserves energy.




## REDUCING HVAC LOADS

RenewAire technology reduces **HVAC loads** during both winter and summer. In turn, HVAC equipment capacities can be decreased, thus furnaces and air conditioners can be smaller. This process ensures efficient operations and keeps both energy use and costs low, while maintaining high-level IAQ.




## MINIMIZING ENVIRONMENTAL IMPACT

The combination of less energy used and HVAC loads being reduced conserves resources. Further, our Madison, WI plant is 100% powered by renewable wind energy, and is one of the few buildings worldwide to be LEED® Gold and Green Globes certified, as well as having achieved ENERGY STAR Building status. This commitment to sustainable manufacturing minimizes our overall production and distribution environmental footprint.

# WHY RENEWAIRE IS PREFERRED

## BEST VALUE

- Priced competitively against other energy recovery ventilation technology
- Due to competitive pricing and decreased costs, payback is short and ROI is maximized
- Contractors and OEMs can pass these significant savings along to their customers
- End users can benefit from a significantly reduced operating cost

## RELIABLE OPERATION

- Built-to-last ERVs have lifespans of 25+ years and operate consistently year-round in every extreme, including frost-free performance in all but the most severe winter climates
- High-efficiency core operates dry in all conditions, meaning no condensate pans
- An industry-leading ten-year warranty for the static-plate core, two-year warranty for commercial products and a five-year warranty for residential products
- Superior product quality results in paramount reliability and longevity

## HIGHEST-QUALITY INDOOR AIR

- Stale indoor air is replaced with fresh, conditioned and filtered air from the outside, resulting in Enhanced IAQ by removing harmful contaminants
- Airstreams do not mix and pollutants are not transferred across partition plates
- No biocide used; material does not promote biological growth
- Moderated temperatures and humidity maintain a comfortable indoor environment

## OPTIMIZED ENERGY EFFICIENCY

- Efficient heat and humidity transfer recaptures up to 70–80% of the energy exhausted in the airstream
- Energy that's otherwise wasted by conventional ventilation systems (such as bath fans) is reused, thus dramatically reducing monthly operation costs
- Energy-efficient operation decreases HVAC loads, which cuts down on energy use and costs
- The hotter or colder the climate, the more energy is recovered

## HIGHLY CERTIFIED

- RenewAire products are highly certified. See individual catalog submittal for certification details:
  - UL
  - cUL
  - ETL
  - HVI
  - AHRI

# SA SERIES

Energy Recovery Core Array

**INDOOR UNIT**
Stackable Array

NEW

## SPECIFICATIONS

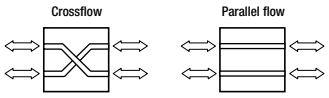
**Ventilation Type:**
Static plate, heat and humidity transfer

**AHRI 1060 Certified Core:**
L125-G5 (Quantity varies)

**Standard Features:**
SA-Series units can be configured from 3H3W to 8H8W
Blower not included and must be specified to meet job requirements.
Choice of airflow configuration: parallel flow, crossflow
Plenum assembly
Knockdown shipping only
Insulated dividers between airstreams

## AIRFLOW ORIENTATION

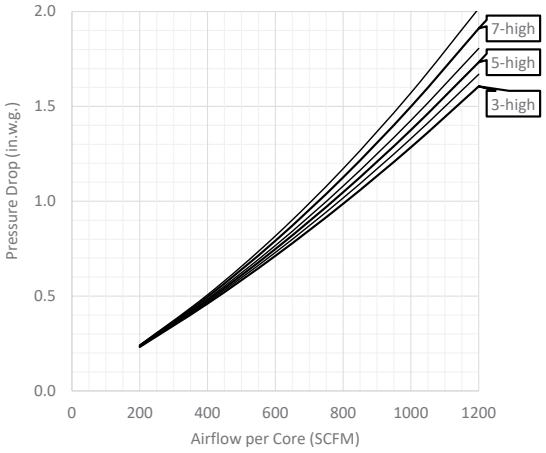
Can be configured on site.
Available as shown:



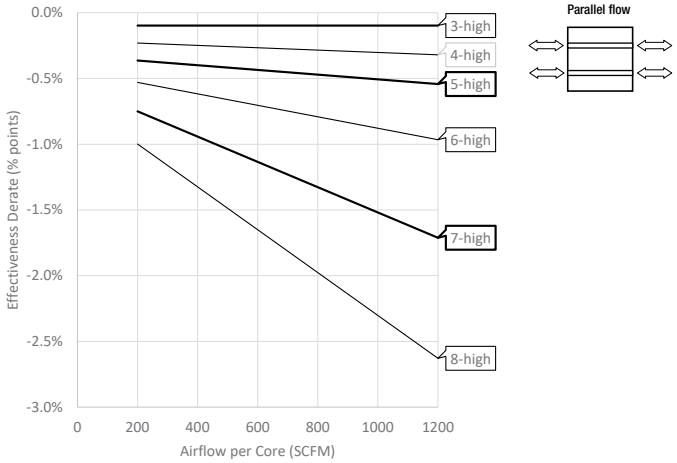

Energy Recovery Core is AHRI Certified®

AHRI CERTIFIED®
www.ahridirectory.org
Air-to-Air ERV
AHRI Standard 1060
Energy Recovery COMPONENT is certified. Actual performance in packaged equipment may vary.

## AIRFLOW PERFORMANCE

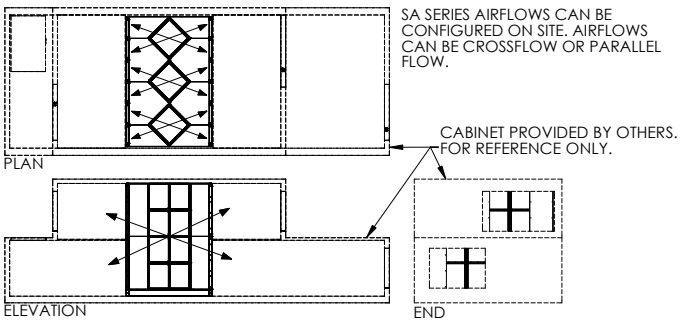


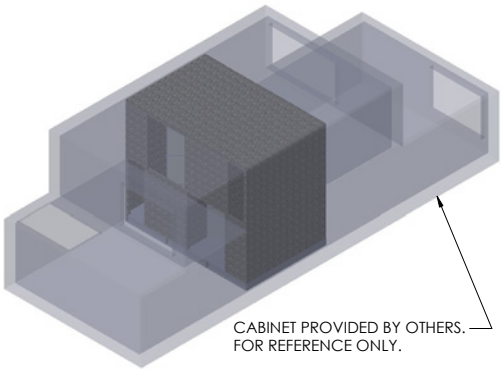

## EFFECTIVENESS SUBTRACTION DERATE FOR PARALLEL FLOW




When parallel flow airflow orientation is used, flow is not optimally distributed to every exchanger and performance is slightly reduced. In this case the sensible and latent effectiveness must be derated by the amount shown in the EFFECTIVENESS DERATE chart. This derate is automatically applied by CORES.RenewAire.com (v1.3.0 and after) when parallel flow orientation is selected.

## APPLICATION






RenewAire® Energy Recovery Ventilation

# SA SERIES

Energy Recovery Core Array

## SA SERIES DIMENSIONS

Energy Recovery Core is AHRI Certified®

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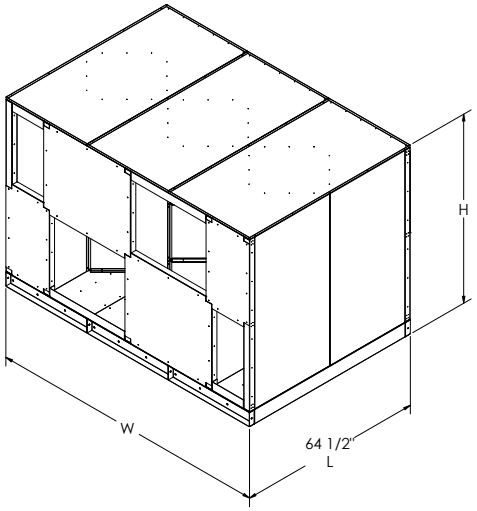


| Unit (Cores High and Wide) | Typical Airflow Range (CFM) | AHRI 1060 Certified Cores (L125-G5) | Unit Dimensions | | | Weight (lbs.) |
|---|---|---|---|---|---|---|
| | | | L (Inches) | W (Inches) | H (Inches) | |
| SA3H3W | 2,250–9,900 | 9 | 64 1/2 | 97 3/4 | 65 5/8 | 1,300 |
| SA3H4W | 3,000–13,200 | 12 | | 130 1/4 | 65 5/8 | 1,675 |
| SA3H5W | 3,750–16,500 | 15 | | 162 7/8 | 65 5/8 | 2,049 |
| SA3H6W | 4,500–19,800 | 18 | | 195 3/8 | 65 5/8 | 2,424 |
| SA3H7W | 5,250–23,100 | 21 | | 228 | 65 5/8 | 2,798 |
| SA3H8W | 6,000–26,400 | 24 | | 260 1/2 | 65 5/8 | 3,172 |
| SA4H3W | 3,000–13,200 | 12 | | 97 3/4 | 85 1/2 | 1,582 |
| SA4H4W | 4,000–17,600 | 16 | | 130 1/4 | 85 1/2 | 2,030 |
| SA4H5W | 5,000–22,000 | 20 | | 162 7/8 | 85 1/2 | 2,479 |
| SA4H6W | 6,000–26,400 | 24 | | 195 3/8 | 85 1/2 | 2,927 |
| SA4H7W | 7,000–30,800 | 28 | | 228 | 85 1/2 | 3,376 |
| SA4H8W | 8,000–35,200 | 32 | | 260 1/2 | 85 1/2 | 3,825 |
| SA5H3W | 3,750–16,500 | 15 | | 97 3/4 | 105 3/8 | 1,863 |
| SA5H4W | 5,000–22,000 | 20 | | 130 1/4 | 105 3/8 | 2,384 |
| SA5H5W | 6,250–27,500 | 25 | | 162 7/8 | 105 3/8 | 2,908 |
| SA5H6W | 7,500–33,000 | 30 | | 195 3/8 | 105 3/8 | 3,431 |
| SA5H7W | 8,750–38,500 | 35 | | 228 | 105 3/8 | 3,954 |
| SA5H8W | 10,000–44,400 | 40 | | 260 1/2 | 105 3/8 | 4,477 |
| SA6H3W | 4,500–19,800 | 18 | | 97 3/4 | 125 1/2 | 2,203 |
| SA6H4W | 6,000–26,400 | 24 | | 130 1/4 | 125 1/2 | 2,819 |
| SA6H5W | 7,500–33,000 | 30 | | 162 7/8 | 125 1/2 | 3,435 |
| SA6H6W | 9,000–39,600 | 36 | | 195 3/8 | 125 1/2 | 4,051 |
| SA6H7W | 10,500–46,200 | 42 | | 228 | 125 1/2 | 4,666 |
| SA6H8W | 12,000–52,800 | 48 | | 260 1/2 | 125 1/2 | 5,282 |
| SA7H3W | 5,250–23,100 | 21 | | 97 3/4 | 145 3/8 | 2,483 |
| SA7H4W | 7,000–30,800 | 28 | | 130 1/4 | 145 3/8 | 3,174 |
| SA7H5W | 8,750–38,500 | 35 | | 162 7/8 | 145 3/8 | 3,864 |
| SA7H6W | 10,500–46,200 | 42 | | 195 3/8 | 145 3/8 | 4,554 |
| SA7H7W | 12,250–53,900 | 49 | | 228 | 145 3/8 | 5,244 |
| SA7H8W | 14,000–61,600 | 56 | | 260 1/2 | 145 3/8 | 5,934 |
| SA8H3W | 6,000–26,400 | 24 | | 97 3/4 | 165 1/4 | 2,765 |
| SA8H4W | 8,000–35,200 | 32 | | 130 1/4 | 165 1/4 | 3,529 |
| SA8H5W | 10,000–44,000 | 40 | | 162 7/8 | 165 1/4 | 4,294 |
| SA8H6W | 12,000–52,800 | 48 | | 195 3/8 | 165 1/4 | 5,058 |
| SA8H7W | 14,000–61,600 | 56 | | 228 | 165 1/4 | 5,822 |
| SA8H8W | 16,000–70,400 | 64 | | 260 1/2 | 165 1/4 | 6,587 |

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# SA MODEL CONFIGURATION GUIDE

Note: Not all options are available on every model.

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL NUMBER | S | A | | | | | J | I | N | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | N |
| DIGIT NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

| Digits 1–2: | Series |
|---|---|
| "SA" = Stackable Array | |

| Digits 3–4: | Array Core Height |
|---|---|
| "3H" = 3 Core Height | |
| "4H" = 4 Core Height | |
| "5H" = 5 Core Height | |
| "6H" = 6 Core Height | |
| "7H" = 7 Core Height | |
| "8H" = 8 Core Height | |

| Digits 5–6: | Array Core Width |
|---|---|
| "3W" = 3 Core Width | |
| "4W" = 4 Core Width | |
| "5W" = 5 Core Width | |
| "6W" = 6 Core Width | |
| "7W" = 7 Core Width | |
| "8W" = 8 Core Width | |

***NOTES:**
Digit 7 "J" = G5 Core Type.

| Digits 8–9: | Location |
|---|---|
| "IN" = Indoor | |

| Digits 10–23: | Unused |
|---|---|
| "-" = Unused | |

| Digit 24: | Other Options |
|---|---|
| "K" = Knockdown | |
| "X" = Custom Unit | |

| Digit 25: | Safety Listing |
|---|---|
| "N" = Non-Listed | |

| Restrictions: | |
|---|---|
| 1: None | |

For Technical Support E-mail: RenewaireSupport@renewaire.com
To Place an Order E-mail: RenewaireOrders@renewaire.com

## INDOOR AIR QUALITY MATTERS

- **Deficient IAQ** is an EPA **top-five** health risk
- People spend **90%** of their **time indoors**
- **Indoor air** can be 2–5 times and up to 100 times **more polluted than outdoor air**

## BENEFITS OF INCREASED VENTILATION


### TECHNICAL/APPLICATIONS SUPPORT

The goal of our technical-support team is to provide the **BEST CUSTOMER SERVICE** in the HVAC industry. You can count on our knowledgeable and seasoned staff for all your technical, application and service needs, and we'll respond quickly and effectively to answer any of your questions.

### CONTACT RENEWAIRE

**FOR TECHNICAL SUPPORT:**
RenewaireSupport@renewaire.com

**PHONE:**
1.800.627.4499

**FAX:**
608.221.2824

**TO PLACE AN ORDER:**
CORES.renewaire.com
or
RenewaireOrders@renewaire.com

RenewAire Energy Recovery Ventilation

# RELEVANT EVERYWHERE

### EVERY GEOGRAPHIC REGION
Our ERVs excel in every geographic region.

### EVERY CLIMATE
Our ERVs operate in every climate — from Alaska to Florida, and everywhere in between.

### EVERY PROJECT
From massive skyscrapers to cozy residential homes, our ERVs can be used in every size project and in every code jurisdiction.

## RENEWAIRE TEMPERS THE AIR

Our **ERVs moderate the extremes of outdoor supply-air temperature and humidity year-round**, providing a sustainable solution for fresh air that feels like a perfect spring day.

# APPLIED EVERYWHERE

When indoor occupants breathe in unclean air, this harms their health and causes cognitive impairment. Our ERVs can provide cleaner and healthier indoor air for every type of building in the world, thus improving occupants' wellbeing, while also reducing energy costs.

### RESIDENTIAL
The increased airtightness of newer and remodeled homes is causing deficient IAQ, resulting in more health problems for indoor occupants.

### COMMERCIAL
As commercial buildings become more airtight, deficient IAQ is increasing and causing sickness, absenteeism and decreased productivity.

### HEALTHCARE
The high occupant density of hospitals, nursing homes and other healthcare facilities results in deficient IAQ and ensuing health problems for patients and staff alike.

### RESTAURANTS/COFFEE SHOPS
The large volume of indoor occupants in restaurants and coffee shops causes deficient IAQ and subsequent health problems.

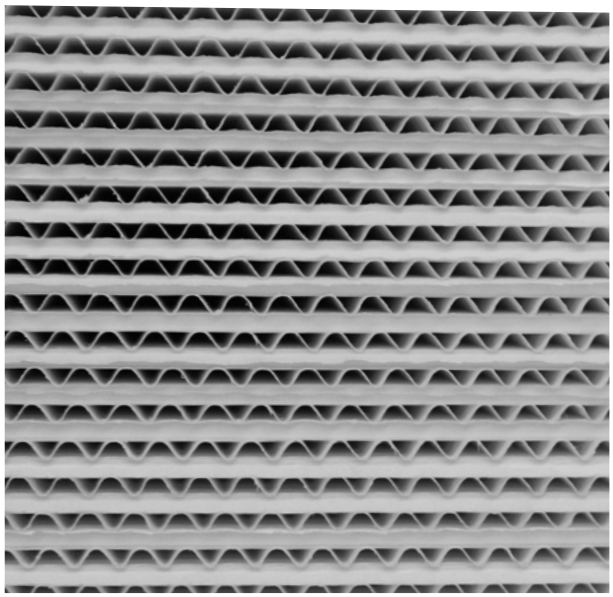
### RETAIL
The high level of foot traffic in retail stores leads to deficient IAQ and the potential sickness of shoppers, which can negatively impact sales.

### DAYCARE
Crowded daycare facilities breed deficient IAQ, thus causing health problems for everyone — especially children who are more vulnerable.

### EDUCATION (LOWER AND HIGHER)
With students and teachers packed into tight classrooms, instances of deficient IAQ go up, resulting in academic performance and test scores going down.

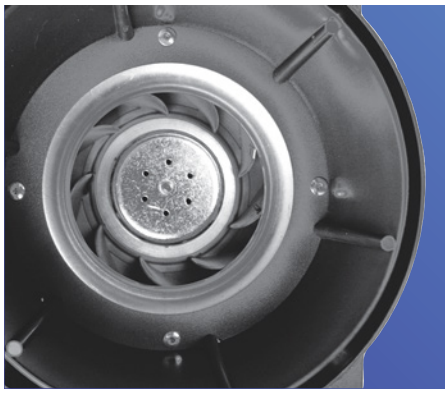
### GOVERNMENT
Aging and crowded government buildings result in deficient IAQ, which can impair worker performance and productivity.

### EVERY TYPE OF BUILDING
Every type of building can benefit from the enhanced IAQ generated by RenewAire ERVs, including veterinary clinics, nail salons and manufacturing facilities, among others.



## RENEWAIRE EVERYWHERE

RenewAire ERVs can be applied everywhere across all commercial, educational, institutional, light industrial and residential buildings. Our technology excels in every geographic region, every climate and every size project.



Soler&Palau Ventilation Group

Member of the S&P Group Family of Brands

RenewAire® Energy Recovery Ventilation



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