

— VENTILATION SOLUTIONS FOR EVERY HOME —

RESIDENTIAL ERV PRODUCT GUIDE



DEFICIENT INDOOR AIR QUALITY THREATENS HOME OCCUPANTS

As construction methodologies have improved, buildings are becoming increasingly airtight in order to reduce air leakage, improve energy efficiency, reduce heating and cooling costs, further occupant comfort and strengthen structural durability. However, an unintended consequence is deficient indoor air quality (IAQ). This is a serious threat to occupant health, cognitive function, productivity and general wellbeing. Industry standards are changing to **COMBAT DEFICIENT IAQ**, and codes that adopt these new standards are driving the application of **ENERGY RECOVERY VENTILATOR (ERV)** technologies. The World Health Organization (WHO) estimates that 30% of all new or renovated buildings, including homes, suffer from deficient IAQ.¹



Deficient IAQ needs to be addressed since people spend about **90% of their time indoors** according to the National Safety Council (NSC).²



Standardized **test scores can increase by 10%** when ventilation rates are doubled.³



Doubling the ventilation rate from 20 CFM to 40 CFM per person costs only \$32 per person and improves productivity \$6,500 per person per year.⁴

ADVERSE EFFECTS OF DEFICIENT IAQ

Deficient IAQ has numerous adverse effects on health, cognitive function, productivity and general wellbeing.



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 (CO₂)—a constituent of exhaled breath—negatively impacted thinking and decision-making at levels commonly found inside homes and buildings.



Reduced productivity: Worker sickness and absenteeism cause serious losses for businesses of every type, which is estimated to cost the U.S. economy \$168 billion annually.

¹ "Indoor Air Pollution: Introduction for Health Professionals," U.S. Consumer Product Safety Commission, <https://www.cpsc.gov/safety-education/safety-guides/home/indoor-air-pollution-introduction-health-professionals>.

² "Indoor Air Quality," National Safety Council, http://www.nsc.org/NSCDocuments_Advocacy/Fact%20Sheets/Indoor-Air-Quality.pdf.

³ "Frequently Asked Questions about Improved Academic Performance," U.S. Environmental Protection Agency (EPA), <https://www.epa.gov/iaq-schools/frequently-asked-questions-about-improved-academic-performance>.

⁴ Source of data and statements: Int. J. Environ. Res. Public Health 2015, 12 (11), 14709-14722.

WHO'S AT RISK?

Everyone. However, **children are the most vulnerable**. Due to their physiology, children inhale more pollutants per pound of body weight than adults, and because children's airways are narrower, irritation means greater obstruction, according to the WHO. What's more, children's immune systems are less developed than adults.

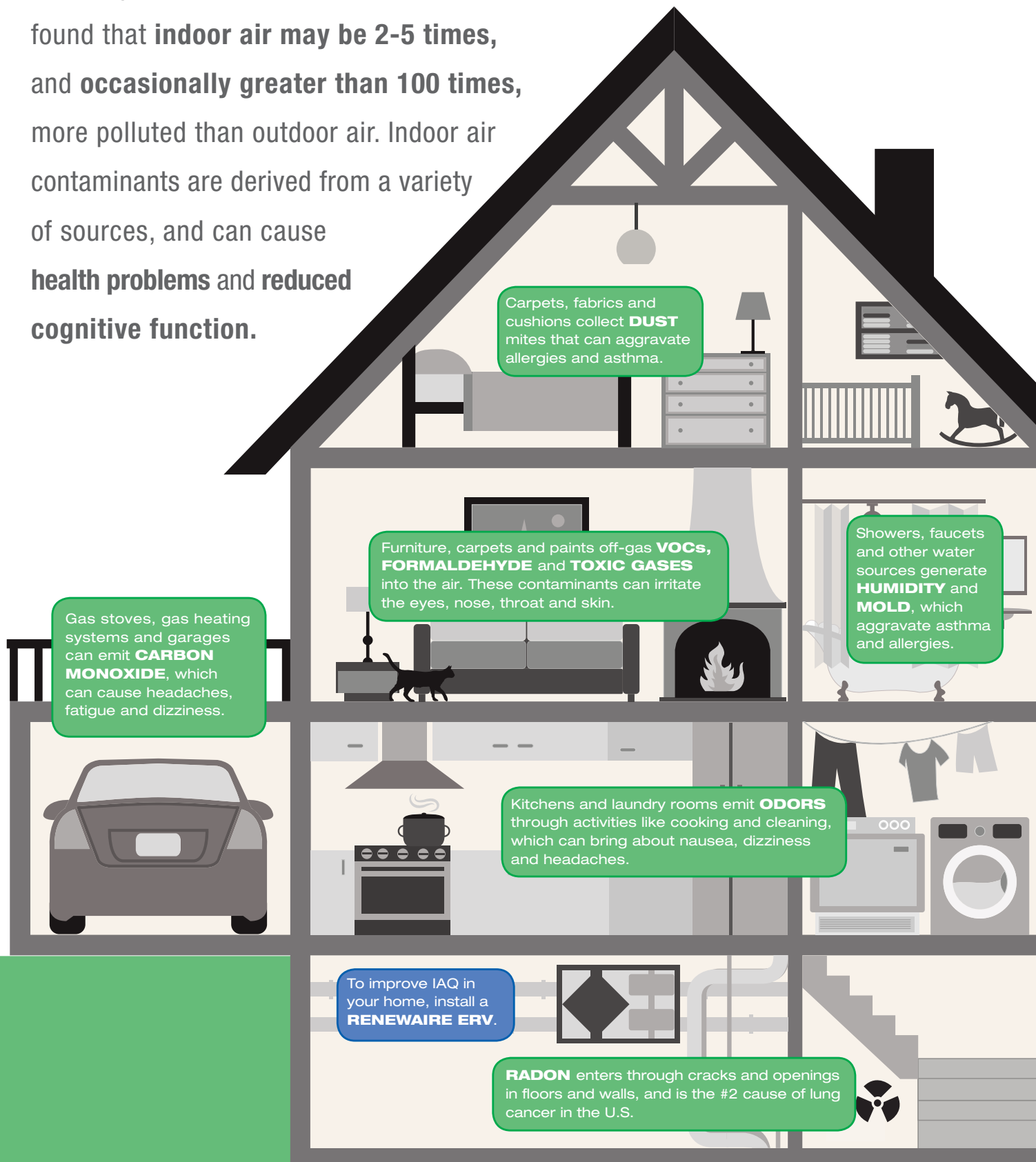
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DID YOU KNOW?

During sleep, people breathe more deeply, allowing more contaminants to enter their body. The results are aggravated asthma and allergies, stuffy noses, headaches, scratchy throats, coughs, sleep interruptions and general sickness. Additionally, contaminants are off-gassed from foams, plastics and flame-retardants found in most new beds and mattresses.

HIDDEN INDOOR AIR CONTAMINANTS IN YOUR HOME

Indoor spaces are full of air contaminants. The EPA found that **indoor air may be 2-5 times, and occasionally greater than 100 times, more polluted than outdoor air.** Indoor air contaminants are derived from a variety of sources, and can cause **health problems and reduced cognitive function.**



RENEWAIRE ERVs

ACHIEVE SUSTAINABLE IAQ

RenewAire is **A PIONEER IN ENHANCING IAQ** while maximizing sustainability through enthalpic-core, static-plate 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 sensible and latent 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 zero exhaust air transfer at normal balanced operating conditions. As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA.

HIGHEST-QUALITY INDOOR AIR

Stale indoor air is replaced with fresh, conditioned and filtered outdoor air, resulting in enhanced IAQ by removing harmful contaminants from the indoor air. Airstreams do not mix and pollutants are not transferred across partition plates.

OPTIMIZING ENERGY EFFICIENCY

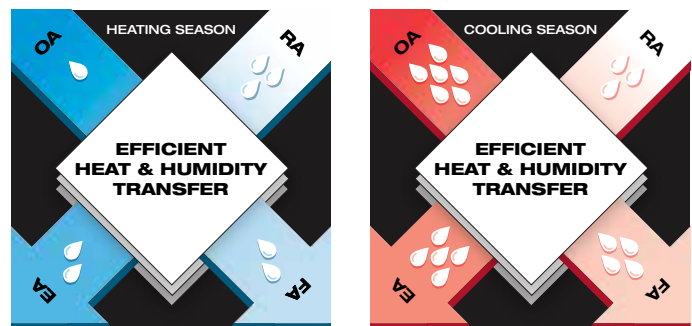
Energy efficiency is optimized by preconditioning the outside air coming in with the **otherwise-wasted sensible and latent energy** of the exhaust air going out. This exchange of energy moderates temperatures and moisture, decreases HVAC equipment needs, drives operational efficiencies and conserves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

REDUCING HVAC LOADS

RenewAire technology **reduces HVAC loads** during both winter and summer. The size of the HVAC equipment (furnace and air conditioner) can be decreased. This ensures efficient operation and keeps both energy use and operating costs low while maintaining high-level IAQ.

MINIMIZING ENVIRONMENTAL IMPACT

The combination of optimized energy efficiency and reduced HVAC loads conserves resources. Further, our Madison, WI plant is 100% powered by renewable wind energy. It is also one of the few buildings worldwide to be LEED, Green Globes and ENERGY STAR certified. This commitment to sustainable manufacturing minimizes our overall production and distribution environmental footprint.



WHY RENEWAIRE IS PREFERRED



BEST VALUE

- ◆ Priced competitively against other ERV models
- ◆ Due to competitive pricing and decreased costs, payback is short and ROI is maximized
- ◆ Contractors can pass these significant savings along to their customers



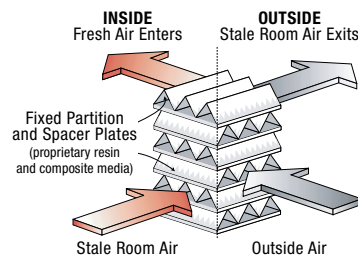
RELIABLE OPERATION

- ◆ 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 or drains are needed
- ◆ Fewer moving parts means fewer problems: no dampers or damper motors to stick or break
- ◆ An industry-leading 10-year warranty for the static-plate core and a five-year warranty for all other product components ensure peace of mind
- ◆ Superior product quality results in paramount reliability and longevity
- ◆ UL-listed for safety



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 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
- ◆ Many of our ERVs rank among the highest-efficiency models as certified by the Home Ventilating Institute (HVI)



SIMPLE

SIMPLE TO INSTALL

CENTRAL EXHAUST

The **superior choice** for the most energy-efficient ventilation.

Central Exhaust provides an ample supply of filtered outdoor air and replaces bathroom exhaust fans, capturing energy from bathrooms and kitchens that would otherwise be wasted. Air is collected from a small ductwork system at each exhaust location, and the unit delivers fresh air to the furnace/AC return air duct. According to the Department of Energy (DOE), balanced ventilation using ERVs results in the lowest level of steady-state indoor air contaminants.



GENERAL EXHAUST

GENERAL EXHAUST

Installation option for putting an ERV into an **established system**.

General Exhaust provides an ample supply of filtered outdoor air and is often a preferred option for use in a home that already has an HVAC system in place. This installation method utilizes exhaust fans and ductwork that already exist. Fresh air may be supplied to the furnace/AC return air duct.



QUALITY YOU CAN SEE

EASY TO CONTROL AND ADJUST



PTL CONTROL

- ◆ Primary control for EV90, EV90P, EV130, EV200 and EV300
- ◆ Units can run an adjustable amount of time each hour
- ◆ Two-wire, low-voltage connection



PBL CONTROL (REQUIRES PTL CONTROL)

- ◆ Secondary control used in combination with PTL control
- ◆ Push-button control turns on unit from bathrooms or other intermittent exhaust locations
- ◆ One-touch, 20-minute run-time
- ◆ Push 2 times for 40 minutes or 3 times for 60 minutes
- ◆ Two-wire, low-voltage connection



FM CONTROL

- ◆ Alternate primary control for EV90, EV90P, EV130, EV200 and EV300
- ◆ Low-voltage wire connects to EV unit and either thermostat or furnace control to turn on furnace blower
- ◆ Six-wire, low-voltage connection

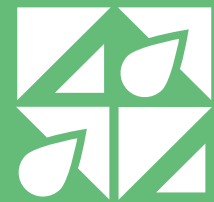
INSULATION

Case walls and doors are fully insulated with 1" expanded polystyrene foam insulation with a cleanable foil face on all exposed surfaces.



CONSTRUCTION

24-gauge steel with lapped corners and zinc-plated screw fasteners.



SIMPLE TO USE AND MAINTAIN

- ◆ Homeowners like the ERVs because the **controls are simple** and intuitive, and provide the ability for both timer and manual control
- ◆ Maintenance **doesn't require a technician**—simply vacuum the faces of the core and change the filters about once a year
- ◆ **No condensate pans and drains** makes running the ERV simple and easy, and cuts down on maintenance time and costs
- ◆ For any technical, application or service questions, our **experienced and knowledgeable customer-service team** is available

AND EASY

FIND THE RIGHT ERV FOR YOUR HOME

BR 70

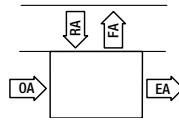


- CONSUMER-GRADE APPLIANCE
- TWO-DUCT CONNECTION FOR SIMPLE INSTALLATION
- PLUG-IN POWER



Airflow Configuration

Available as shown:



Unit Mounting & Application

Can be mounted in any orientation. If duct-mounted, airstreams cannot be switched. If mounted with exterior Thru-the-wall installation kit, the RA/EA airstreams are switched with the OA/FA airstreams. If four ducts are connected using duct collar kit, airstreams may be switched.



Typical Airflow Range:

40-70 CFM

Standard Features:

Painted cabinet
Line-cord power supply
Built-in control
Unit may be mounted in any orientation

Control:

Built-in proportional runtime control and switched terminals for furnace/AC interconnect

Filters:

Total qty. 2, MERV 8, spun-polyester media:
7 1/2" x 10 1/2" x 1"

Unit Dimensions & Weight:

29 3/4" L x 19 1/4" W x 10 3/4" H; 38 lbs.

Motor(s):

Qty. 1, double-shaft motor

Accessories:

Backdraft damper - 6"
Wall cap - 6" white or brown
Exterior thru-the-wall installation kit
Duct collar kit

BR 130

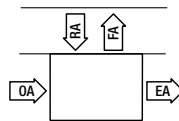


- CONSUMER-GRADE APPLIANCE
- TWO-DUCT CONNECTION FOR SIMPLE INSTALLATION
- PLUG-IN POWER



Airflow Configuration

Available as shown:



Unit Mounting & Application

Can be mounted in any orientation. If duct-mounted, airstreams cannot be switched. If mounted with exterior Thru-the-wall installation kit, the RA/EA airstreams are switched with the OA/FA airstreams. If four ducts are connected using duct collar kit, airstreams may be switched.



Typical Airflow Range:

50-140 CFM

Standard Features:

Painted cabinet
Line-cord power supply
Built-in control
Unit may be mounted in any orientation

Control:

Built-in proportional runtime control and switched terminals for furnace/AC interconnect

Filters:

Total qty. 2, MERV 8, spun-polyester media:
10 1/2" x 10 1/2" x 1"

Unit Dimensions & Weight:

33 1/2" L x 19 1/4" W x 13 1/2" H; 48 lbs.

Motor(s):

Qty. 1, double-shaft motor

Accessories:

Backdraft damper - 6"
Wall cap - 6" white or brown
Exterior thru-the-wall installation kit
Duct collar kit

GR 90

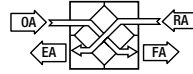


- LOW-COST AND UNPAINTED
- COMMERCIAL-GRADE APPLIANCE, OFTEN USED FOR MULTI-FAMILY UNITS
- FOUR-DUCT CONNECTION
- HARD-WIRED POWER FOR CONTRACTOR INSTALLATION



Airflow Configuration

Available as shown:



Unit Mounting & Application

Can be mounted in ANY orientation.

RA/EA airstream can be switched with the OA/FA airstream.



Typical Airflow Range:

40-110 CFM

Standard Features:

Galvanized cabinet
Terminal strip hard wiring in ebox (no line cord)
Unit may be mounted in any orientation

Control:

Can use any switched line-voltage power supply (no low-voltage controls)

Filters:

Total qty. 2, MERV 8, spun-polyester media:
9 5/8" x 10 1/2" x 1"

Unit Dimensions & Weight:

22 1/2" L x 11 3/4" W x 23 3/4" H; 36 lbs.

Motor(s):

Qty. 2, motorized impeller blowers

Accessories:

Backdraft damper - 6"
Wall cap - 6" white or brown
120V line-voltage Honeywell control

EV 90

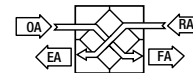


- CONSUMER-GRADE APPLIANCE
- FOUR-DUCT CONNECTION
- PLUG-IN POWER



Airflow Configuration

Available as shown:



Unit Mounting & Application

Can be mounted in ANY orientation.

RA/EA airstream can be switched with the OA/FA airstream.



Typical Airflow Range:

40-110 CFM

Standard Features:

Painted cabinet
Line-cord power supply
Low-voltage circuit for controls
Unit may be mounted in any orientation

Control:

Onboard 24 VAC transformer/relay package with switched dry contacts

Filters:

Total qty. 2, MERV 8, spun-polyester media:
9 5/8" x 10 1/2" x 1"

Unit Dimensions & Weight:

22 1/2" L x 11 3/4" W x 23 3/4" H; 36 lbs.

Motor(s):

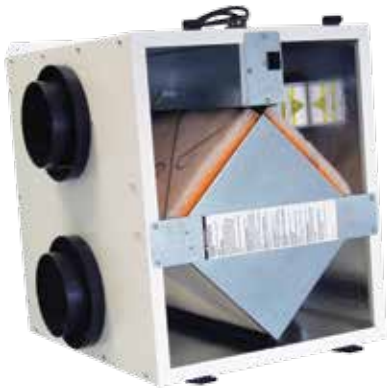
Qty. 2, motorized impeller blowers

Accessories:

Backdraft damper - 6"
Wall cap - 6" white or brown
Percentage timer control (PTL)
Push-button point-of-use controls (PBL), PTL req'd.
Percentage timer control with furnace interlock (FM)

DESIGNED FOR SUPERIOR PERFORMANCE IN EVERY HOME AND CLIMATE

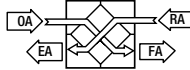
EV 90P



- HIGH-PERFORMANCE ERV
- CONSUMER-GRADE APPLIANCE
- FOUR-DUCT CONNECTION
- PLUG-IN POWER



Airflow Configuration
Available as shown:



Unit Mounting & Application
Can be mounted in ANY orientation.
RA/EA airstream can be switched
with the OA/FA airstream.



Typical Airflow Range:
40-110 CFM

Standard Features:
Painted cabinet
Line-cord power supply
Low-voltage circuit for controls
Unit may be mounted in any orientation

Control:
Onboard 24 VAC transformer/relay package with
Switched dry contacts

Filters:
Total qty. 2, MERV 8, spun-polyester media:
21 3/4" x 10 1/2" x 1"

Unit Dimensions & Weight:
22 1/2" L x 24" W x 23 3/4" H; 51 lbs.

Motor(s):
Qty. 2, motorized impeller blowers

Accessories:
Backdraft damper - 6"
Wall cap - 6" white or brown
Percentage timer control (PTL)
Push-button point-of-use controls (PBL), PTL req'd.
Percentage timer control with furnace interlock (FM)

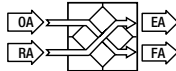
EV 130



- CONSUMER-GRADE APPLIANCE
- FOUR-DUCT CONNECTION
- PLUG-IN POWER



Airflow Configuration
Available as shown:



Unit Mounting & Application
Can be mounted in ANY orientation.
RA/EA airstream can be switched
with the OA/FA airstream.



Typical Airflow Range:
50-140 CFM

Standard Features:
Painted cabinet
Line-cord power supply
Low-voltage circuit for controls
Unit may be mounted in any orientation

Control:
Onboard 24 VAC transformer/relay package
with switched dry contacts

Filters:
Total qty. 2, MERV 8, spun-polyester media:
10 1/2" x 10 1/2" x 1"

Unit Dimensions & Weight:
33 1/2" L x 13 1/4" W x 20" H; 48 lbs.

Motor(s):
Qty. 1, double-shaft motor

Accessories:
Backdraft damper - 6"
Wall cap - 6" white or brown
Percentage timer control (PTL)
Push-button point-of-use controls (PBL), PTL req'd.
Percentage timer control with furnace interlock (FM)

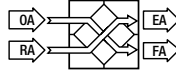
EV 200



- CONSUMER-GRADE APPLIANCE
- FOUR-DUCT CONNECTION
- PLUG-IN POWER



Airflow Configuration
Available as shown:



Unit Mounting & Application
Can be mounted in ANY orientation.
RA/EA airstream can be switched with the OA/FA airstream.



Typical Airflow Range:
100-200 CFM

Standard Features:
Painted cabinet
Line-cord power supply
Low-voltage circuit for controls
Unit may be mounted in any orientation

Control:
Onboard 24 VAC transformer/relay package with switched dry contacts

Filters:
Total qty. 2, MERV 8, spun-polyester media:
10 1/2" x 21 3/4" x 1"

Unit Dimensions & Weight:
33 1/2" L x 24" W x 20" H; 68 lbs.

Motor(s):
Qty. 1, double-shaft motor

Accessories:
Backdraft damper - 8"
Wall cap - 8" taupe
Wall cap - 8" galvanized or paintable galvanized
Louver with 8" round duct connection
- 12" (W) x 8" (H)
Percentage timer control (PTL)
Push-button point-of-use controls (PBL), PTL req'd.
Percentage timer control with furnace interlock (FM)

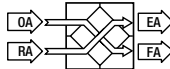
EV 300



- CONSUMER-GRADE APPLIANCE
- FOUR-DUCT CONNECTION
- PLUG-IN POWER



Airflow Configuration
Available as shown:



Unit Mounting & Application
Can be mounted in ANY orientation.
RA/EA airstream can be switched with the OA/FA airstream.



Typical Airflow Range:
150-300 CFM

Standard Features:
Painted cabinet
Line-cord power supply
Low-voltage circuit for controls
Unit may be mounted in any orientation

Control:
Onboard 24 VAC transformer/relay package with switched dry contacts

Filters:
Total qty. 2, MERV 8, spun-polyester media:
10 1/2" x 21 3/4" x 1"

Unit Dimensions & Weight:
33 3/4" L x 24 W x 20" H; 72 lbs.

Motor(s):
Qty. 1, double-shaft motor

Accessories:
Backdraft damper - 8"
Wall cap - 8" taupe
Wall cap - 8" galvanized or paintable galvanized
Louver with 8" round duct connection
- 12" (W) x 8" (H)
Percentage timer control (PTL)
Push-button point-of-use controls (PBL), PTL req'd.
Percentage timer control with furnace interlock (FM)



RENEWAIRE EVERYWHERE

RenewAire ERVs can be applied everywhere across all residential and commercial buildings, and everything in between.

Our technology excels in every geographic region, every climate and every size project.



RenewAire.com
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