RenewAire®
Energy Recovery Ventilation

HE SERIES ERVs

COMMERCIAL ENERGY RECOVERY VENTILATORS

HE07RT shown

- Packaged static-plate total energy recovery ventilator
- 120–8,800 CFM
- TEFC premium efficiency motors for HE1.5X–HE8X, IE5+ ultra premium efficiency motors option for HE2X–HE8X, and EC motorized impellers for HE05, HE07, HE10 and an option for HE1.5X
- Options and accessories: bypass economizer, integrated programmable controls, VFDs, double wall, Class 1 low-leakage dampers, MERV 13 filters

AHRI CERTIFIED® www.ahridirectory.org
Globally Recognized. Industry Respected.

ETL Intertek

VENTILATION SOLUTIONS
FOR EVERY APPLICATION

HE SERIES PACKAGED ENERGY RECOVERY VENTILATOR

DEFICIENT INDOOR AIR QUALITY IS A THREAT

As **buildings get tighter to seal weather out, they seal in contaminants**, causing a reduction in indoor air quality (IAQ). Typical contaminants include off-gassing from carpeting, furniture and building materials, excess humidity and mold, odors, cooking and cleaning fumes, CO2, hair and fibers, to name a few.

Deficient IAQ is a threat since it can harm occupant health and cognitive function, damage structures and hurt the bottom line. It's especially concerning since people spend about 90% of their time indoors, and indoor air can be two to five times—and up to 100 times—more polluted than outdoor air. The EPA ranks indoor air pollution as a top-five health risk.[1]

ADVERSE EFFECTS OF DEFICIENT IAQ

HEALTH PROBLEMS

Deficient IAQ can cause allergies, headaches, coughs, asthma, skin irritations and breathing difficulties, as well as cancer, liver disease, kidney damage and nervous-system failure.

COGNITIVE IMPAIRMENT

Harvard and Berkeley Lab found that CO2—a constituent of exhaled breath—negatively impacts thinking and decision-making at levels commonly found indoors.[2]

DISEASE TRANSMISSION

Ventilation with outdoor air is vital to diluting airborne contaminants and decreasing disease transmission rates.

REDUCED PRODUCTIVITY

Berkeley Lab found that poor IAQ can cost $200 billion in debilitated worker performance and $58 billion in lost sick time.[3]

VENTILATION CAN ENHANCE IAQ AND DECREASE THE TRANSMISSION OF AIRBORNE INFECTIOUS DISEASES, INCLUDING COVID-19:
BIT.LY/COVID19WP_22

[1] "Why Indoor Air Quality is Important to Schools," U.S. Environmental Protection Agency (EPA), https://bit.ly/2SoyRJc.

[2] Romm, "Exclusive: Elevated CO2 Levels Directly Affect Human Cognition, New Harvard Study Shows," Climate Progress, https://bit.ly/2Vp6AE2.

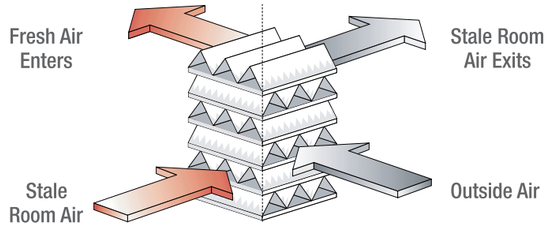
[3] Alevantis, Berman, Mills, Perlman, "The Costs and Financial Benefits of Green Buildings," U.S. Green Building Council (USGBC), https://bit.ly/4fOFjkz.

HIGHEST-QUALITY INDOOR AIR VIA VENTILATION

The solution to pollution is dilution achieved via **increased and balanced ventilation**, which is the most effective way to realize cleaner and healthier indoor air. With enough controlled fresh and filtered outdoor air coming in to replace equal parts of stale indoor air via balanced design, IAQ will be enhanced.

This can be done energy-efficiently, cost-effectively, and sustainably with RenewAire's energy recovery ventilation. Our enthalpic core allows the otherwise-wasted sensible and latent energy to transfer between the exhaust and outdoor airstreams which conditions the incoming outdoor air. This is done without the airstreams mixing or needing any condensate drains. The results are improved IAQ and humidity control, greater ventilation efficiency, and substantial energy cost savings

AIRSTREAMS DO NOT MIX & POLLUTANTS ARE NOT TRANSFERRED ACROSS PARTITION PLATES



ASHRAE BUILDING CODES & STANDARDS

With the goal of building sustainably and creating healthy environments for all, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has written several standards and guidelines. By enhancing IAQ and saving energy, RenewAire technologies provide the means to meet and exceed all ASHRAE standards and guidelines. Following these parameters leads to greener structures and healthier occupants.

- **ASHRAE Standard 62.1:** "Ventilation for Acceptable Indoor Air Quality" is the recognized standard for designing ventilation systems to achieve acceptable IAQ. ERVs play a key role by creating cleaner and healthier indoor air while optimizing energy efficiency.
- **ASHRAE Standard 90.1:** "Energy Standard for Buildings Except Low-Rise Residential Buildings" is a benchmark for commercial building energy codes in the U.S. and across the world. ERVs are required in several instances based on climate zone and percent of outdoor air at full design airflow rate.

RENEWAIRE VENTILATION SOLUTIONS IMPROVE HEALTH & WELLNESS

RENEWAIRE CORE TECHNOLOGY

CERTIFICATION

- Commercial Units: Certified by the Air Conditioning, Heating and Refrigeration Institute (AHRI) for an industry-leading, low-to-zero Exhaust Air Transfer Ratio (EATR) at typical static pressure differential
- Residential Units: Certified by the Home Ventilating Institute (HVI) against standard CAN/CSA-C439-18 for an industry leading CFM/W and energy transfer effectiveness
- Superior core flammability performance; passes UL-723 and UL-1812

MAINTENANCE

- RenewAire cores are easy to clean without removing them from the unit, and they never require washing

INNOVATIVE CONSTRUCTION

- Core exchanger material is cellulosic-based and doesn't contain or use halogenated flame retardants or PVCs
- Manufactured with a galvanized steel frame

RELIABILITY

- An industry-leading 10-year structural and performance warranty for the static-plate core, two-year warranty for commercial products

EXCEPTIONAL PERFORMANCE

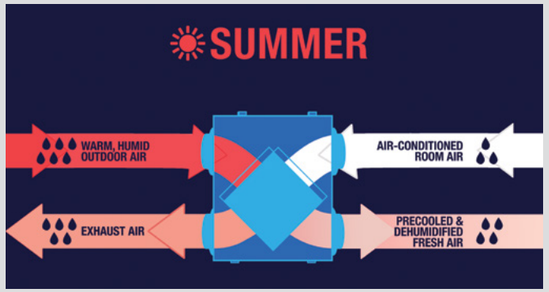
- Moderates heat and humidity via total energy recovery to maintain a comfortable indoor environment
- No need for condensate pans
- Laminar airflow ensures that particulates do not accumulate in the core

REDUCED COSTS

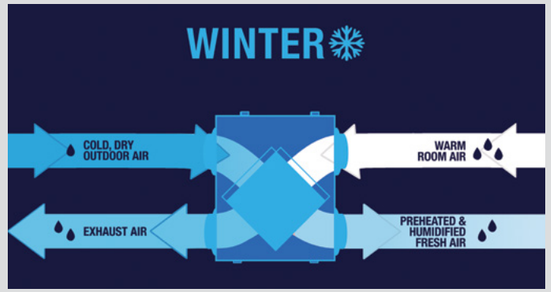
- Optimized energy efficiency via core energy transfer decreases ventilation energy requirements, which can result in smaller air conditioning and heating needs

RENEWAIRE ERVs TEMPER THE AIR

Our ERVs moderate the extremes of outdoor supply-air temperature and humidity year-round, providing a sustainable ventilation solution for every climate.



IN SUMMER, THE WARM, HUMID OUTSIDE AIR IS PRECOOLED AND DEHUMIDIFIED BY THE OUTGOING COOL INTERIOR AIR

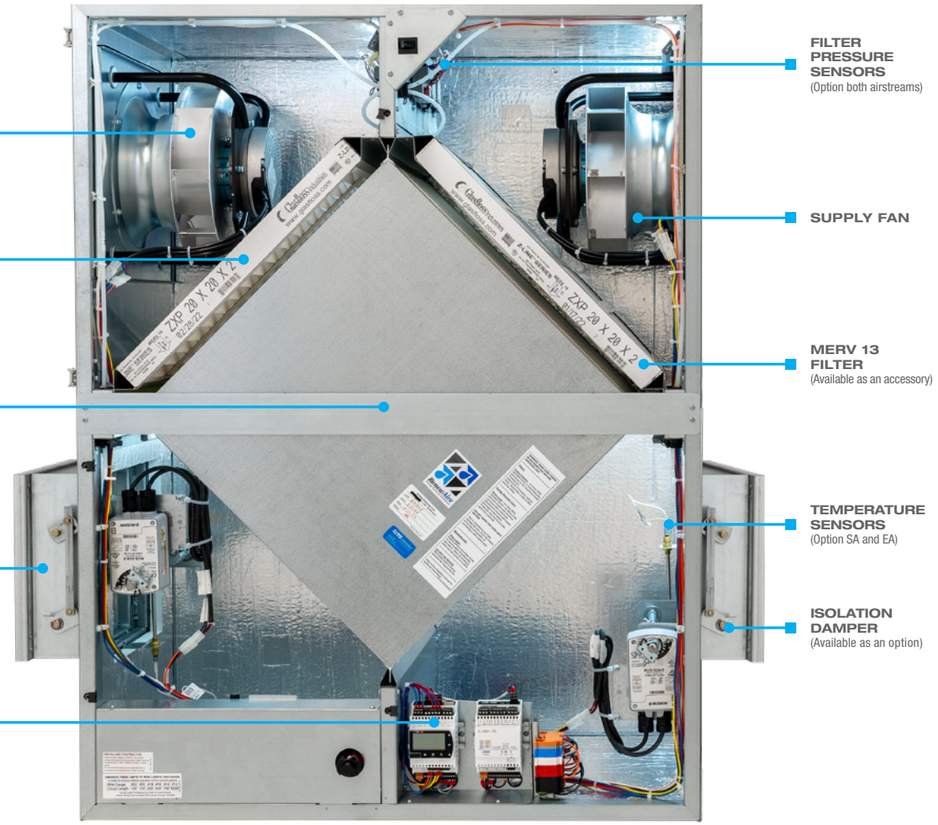


IN WINTER, THE COLD, DRY OUTSIDE AIR IS PREHEATED AND HUMIDIFIED BY THE OUTGOING WARM INTERIOR AIR

A CLOSER LOOK

HE SERIES

Numerous application possibilities exist with the flexible and innovative HE Series commercial ERVs. These self-contained packaged ERVs can be used as a stand-alone unit or in concert with other HVAC equipment, and they have a wide CFM range. In addition, the ERVs are **highly configurable** and offer an extensive list of available options while **optimizing energy efficiency and cost savings**.



VIEW LIFE SIZE VERSIONS OF SELECT HE ERVs

HE07IN | HE10RT | HE1.5XIN

RENEWAIRE VENTILATION SOLUTIONS INCREASE MONETARY BENEFITS

RenewAire in Action

RENEWAIRE ERVs' FISCAL BENEFITS*

Compared to conventional equipment, a RenewAire HE2XINH ERV (at 1,500 CFM in Minnesota with gas heat) will result in:

- **INCREASED CASH FLOW:** RenewAire ERVs lower HVAC energy costs by up to 65%. The HE2XINH ERV can save $2,656 annually on energy costs for the life of the unit.
- **SHORT PAYBACK:** Competitive pricing and sizable HVAC energy savings mean a short payback. The HE2XINH ERV's payback can be 1.75 years.
- **MAXIMIZED NPV:** RenewAire ERVs generate tremendous value. At an additional investment of $4,639, the HE2XINH ERV's Net Present Value (NPV) is $31,371 over 15 years.
- **HIGHER IRR:** Applying RenewAire ERV technology boosts returns. The **Internal Rate of Return (IRR) of the HE2XINH ERV is an incredible 59%!**

*All data pertains to a RenewAire HE2XINH ERV when compared to conventional exhaust equipment at 1,500 CFM of OA in Minnesota using DX cooling and gas heat. Future energy costs calculated based on current energy costs.

LEARN HOW RENEWAIRE ERVs CAN SAVE MONEY:
BIT.LY/NPV_HE2XINH

GREEN BUILDING TRENDS

High-performance, green-building standards seek to reduce energy use and increase ventilation to improve health, wellness, IAQ and indoor environmental quality (IEQ). Sustainable design initiatives like ASHRAE Standard 189.1, LEED, 2030 Challenge, Living Building Challenge and WELL Building Standard have grown in popularity among architects, engineers, contractors and building owners alike. RenewAire ventilation technologies create healthier and more comfortable indoor environments, while optimizing energy efficiency. This is done by reusing otherwise-wasted total energy from the exhaust air to condition incoming outdoor air. The results are exceptional IAQ, IEQ, energy reductions and cost savings.

RENEWAIRE ERVs ARE THE SUSTAINABLE VENTILATION SOLUTION

RenewAire supports the

PILLARS OF SUSTAINABILITY

PEOPLE
Reduce acute and chronic health problems

Improve alertness and cognitive function

Boost productivity

PLANET
Committed to green manufacturing since 1982

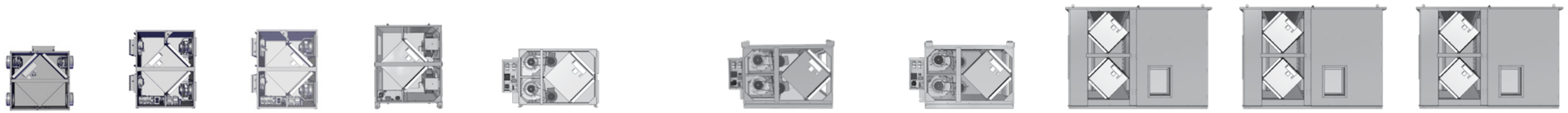
Protect the environment with less energy use

Achieve a green structure with greater energy efficiency

PROFIT
Can benefit from a short payback period

Realize annual energy savings

Trouble-free operations and maintenance

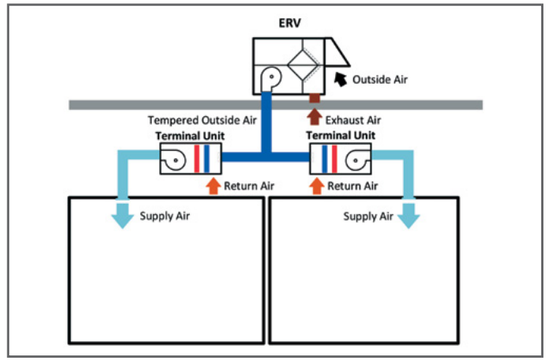


		NEW! HE05	HE07	HE10	HE1.5X	HE2X	HE3X	HE4X	HE6X	NEW! HE7X	HE8X
UNIT	Airflow Range	120–375 CFM	166–694 CFM	250–1100 CFM	375–1,650 CFM	500–2,200 CFM	750–3,300 CFM	1,000–4,400 CFM	1,500–6,600 CFM	1,750–7,700 CFM	2,000–8,800 CFM
	Indoor & Outdoor Installation Location	INV Only	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Non-Fused (standard) & Fused (optional)	Non-Fused Only	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Energy Recovery Static Plate, Heat & Humidity Transfer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	External Bypass	✗	✓ INH & INV	✓ INH & INV	✓ INH & INV	✓ INH & INV	✓ INH & INV	✓ INH & INV	✓ IN only	✓ IN only	✓ IN only
CABINET	Single & Double Wall (optional) Construction	Single Only	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1" Foil Faced Insulation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2,500-hour Salt Spray Rated in White & Custom (optional) Painted Cabinets	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Isolation Dampers	✓ Accessory	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)	✓ (Class 1)
SUPPLY/EXHAUST FAN	Supply/Exhaust Blower	Backward-curved impeller	Backward-curved impeller	Backward-curved impeller	Backward-curved impeller	Forward-curved centrifugal	Forward-curved centrifugal	Forward-curved centrifugal	Backward incline	Backward incline	Backward incline
	Supply/Exhaust Fan Type	Direct-drive	Direct-drive	Direct-drive	Direct-drive	Belt-drive	Belt-drive	Belt-drive	Belt-drive	Belt-drive	Belt-drive
	Supply/Exhaust Fan Speed Control*	ECM	ECM	ECM	ECM (1P Only) VFD (RT 3P Only)	Speed sheave and motor starters, VFD with IE3 or IE5+ motors	Speed sheave and motor starters, VFD with IE3 or IE5+ motors	Speed sheave and motor starters, VFD with IE3 or IE5+ motors	Speed sheave and motor starters, VFD with IE3 or IE5+ motors	Speed sheave and motor starters, VFD with IE3 or IE5+ motors	Speed sheave and motor starters, VFD with IE3 or IE5+ motors
	Supply/Exhaust Fan Vibration Isolation	✗	✓	✓	✗	✗	✗	✗	✓	✓	✓
	Supply/Exhaust Fan Motor Voltage at 60 Hz* — 120V 1P	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
	208-230V 1P	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	277V 1P	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗
	208-230V 3P	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓
	460V 3P	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓
	575V 3P	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
	Unit ESP	0–2.30 in. w.g.	0–3.00 in. w.g. (IN) 0–2.50 in. w.g. (RT)	0–3.00 in. w.g.	0–1.50 in. w.g.	0–1.50 in. w.g.	0–1.50 in. w.g.	0–1.50 in. w.g.	0–2.00 in. w.g.	0–2.00 in. w.g.	0–2.00 in. w.g.
CONTROLS	Integrated Programmable Controls - Enhanced, Premium (optional)	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Optional Communications	BACnet MS/TP with accessory	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP	BACnet, Modbus RTU or TCP
ACCESSORIES	Roof Curbs	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MERV 8 Filters (standard)	MERV 10	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MERV 13 Filters (optional)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CERT.	Certifications	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek	AHRI CERTIFIED, ETL Intertek

SELECTING A UNIT

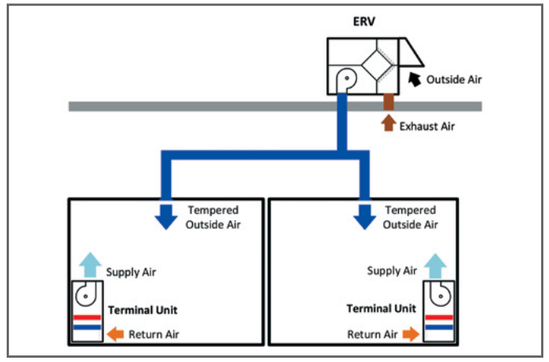
APPLICATION STRATEGIES

AIR SUPPLIED TO INTAKES OF TERMINAL UNITS



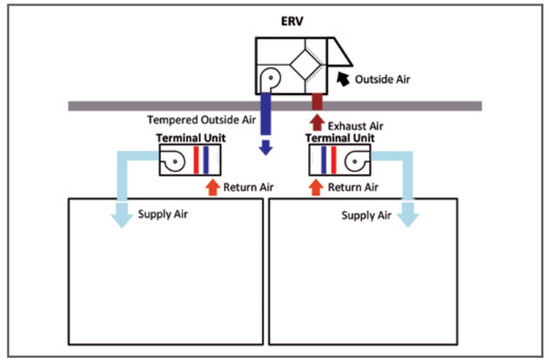
- Variable refrigerant flow/volume
- Active chilled beam
- Fan coils

DIRECT-TO-ZONE WITH TERMINAL UNITS



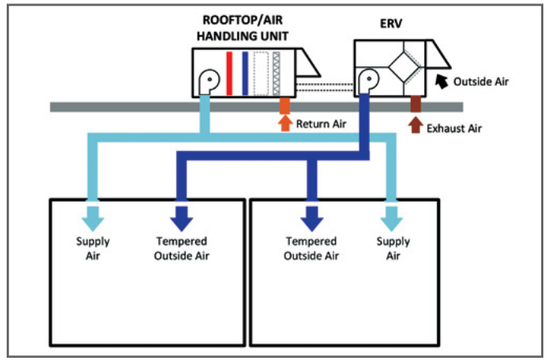
- Variable refrigerant flow/volume
- Chilled beam
- Fan coils
- Radiant floor heating & cooling
- Heat pumps
- Packaged terminal air conditioning

SUPPLY AIR TO MIXING BOXES FOR INDOOR TERMINAL UNITS OR ROOFTOPS



- Variable refrigerant flow/volume
- Chilled beam
- Fan coils

DIRECT-TO-ZONE WITH ROOFTOP OR ALTERNATIVELY TO MIXING BOX OF ROOFTOP UNITS (See dotted line)



Rooftop applications shown, configuration can be applied to indoor units

MAINTENANCE IS SIMPLE

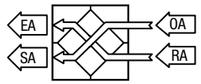
Disposable filters should be checked and replaced as needed. Additionally, once a year, vacuum the four core faces using a soft brush. The RenewAire core does not need to be washed as particulates do not accumulate in the core.

AIRFLOW ORIENTATIONS

INDOOR

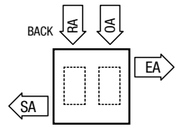
INH

HE07
HE10
HE1.5X
HE2X
HE3X
HE4X



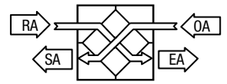
INH

HE6X
HE7X
HE8X



INV

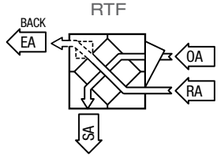
HE05
HE07
HE10
HE1.5X
HE2X
HE3X
HE4X



OUTDOOR

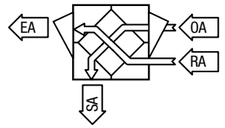
RTF

HE07



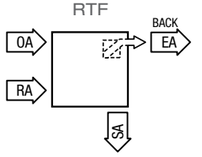
RTF

HE10
HE1.5X
HE2X
HE3X
HE4X



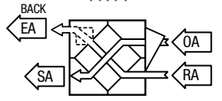
RTF

HE6X
HE7X
HE8X



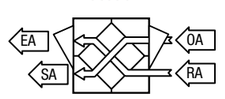
RTH

HE07



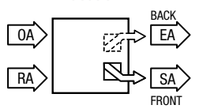
RTH

HE10
HE1.5X
HE2X
HE3X
HE4X



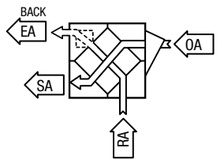
RTH

HE6X
HE7X
HE8X



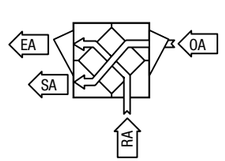
RTR

HE07



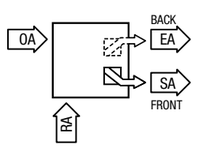
RTR

HE10
HE1.5X
HE2X
HE3X
HE4X



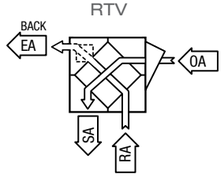
RTR

HE6X
HE7X
HE8X



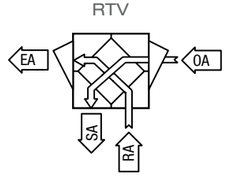
RTV

HE07



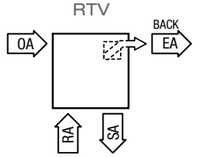
RTV

HE10
HE1.5X
HE2X
HE3X
HE4X



RTV

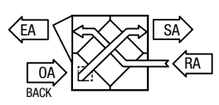
HE6X
HE7X
HE8X



OUTDOOR DIRECT CONNECT

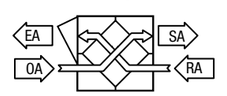
RTC

HE2X



RTC

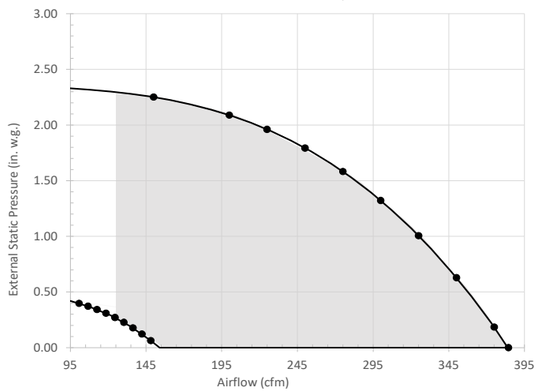
HE3X
HE4X



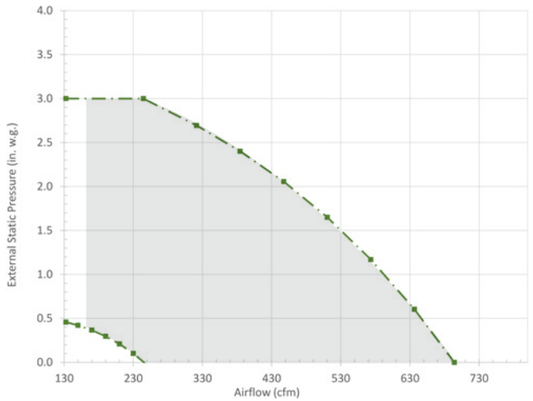
EC MOTORIZED IMPELLERS OPERATING RANGES

STANDARD — INTERMEDIATE — ADVANCED — RECOMMEND OPERATING RANGE

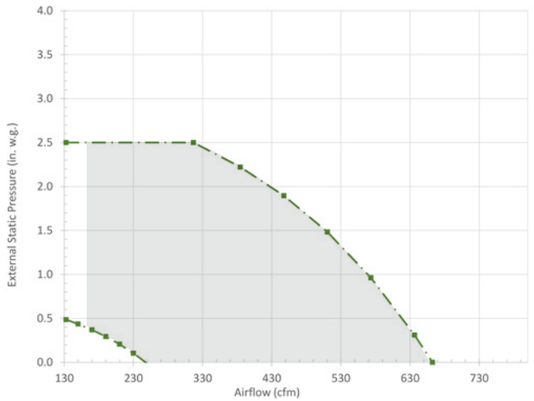
HE05IN 1P 120V



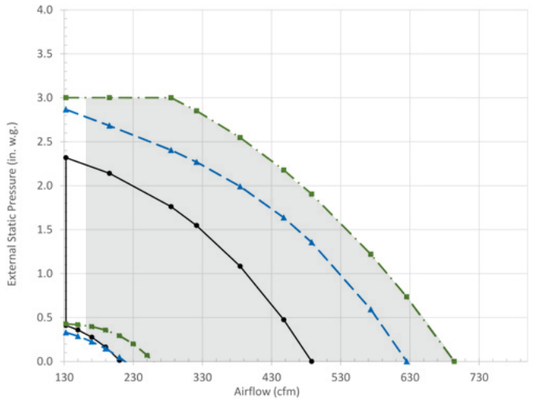
HE07IN 1P 120V



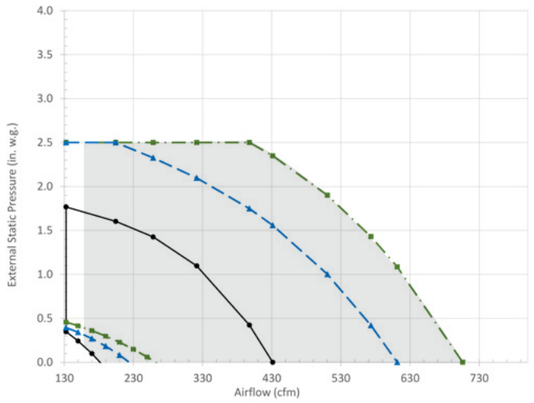
HE07RT 1P 120V



HE07IN 1P 208–230V



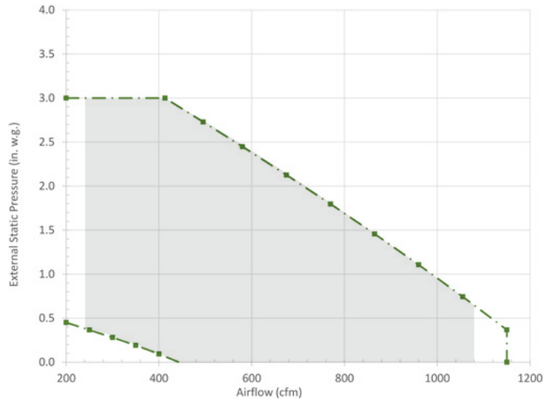
HE07RT 1P 208–230V



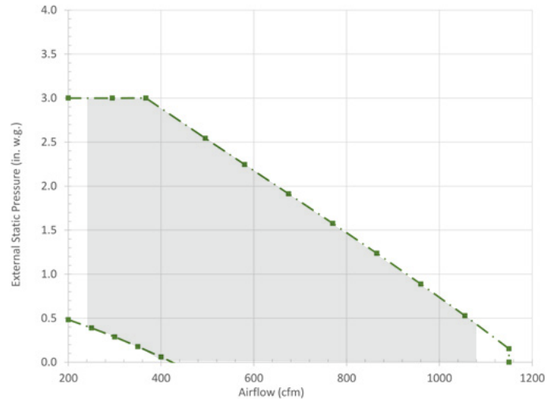
Note: Airflow performance includes effect of clean, standard filter supplied with unit.

STANDARD — INTERMEDIATE — ADVANCED — RECOMMEND OPERATING RANGE

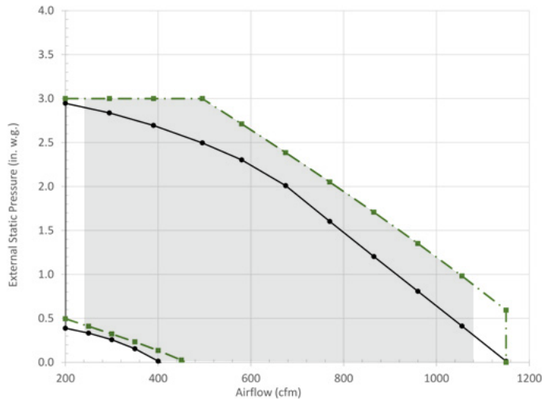
HE10IN 1P 120V



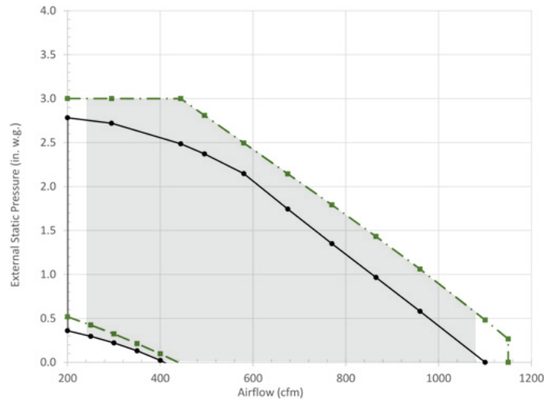
HE10RT 1P 120V



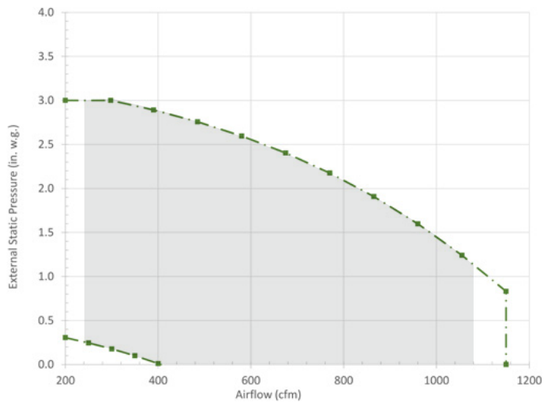
HE10IN 1P 208–230V



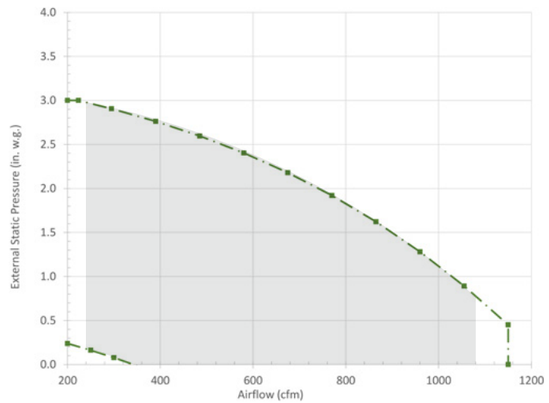
HE10RT 1P 208–230V



HE10IN 3P 460V



HE10RT 3P 460V

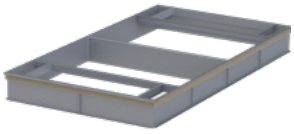


ACCESSORIES

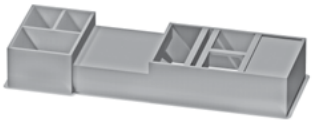
COILS

HE+DX Coils

CURBS



Standard Roof Curb



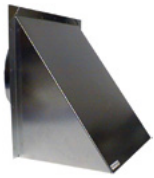
Engineered Combo Curb
(for select AHU/RTU)

FILTERS

2" MERV 8, 10, and 13

WALL VENTS AND DAMPERS

Louvered Wall Vent, 10" Round
Duct Connection, 12" x 12"



Hooded Wall Vent 10" & 12"
Galvanized, Paintable Galvanneal

Backdraft Damper
10" and 12"

Automatic Balancing Damper
4", 5", and 6"

CONTROLS

CO2 Sensor Wall/Duct Mount

IAQ Sensor Wall/Duct Mount

Temperature Sensor
Duct Mount

BACnet
Fan Control

Occupancy Sensor
Wall/Ceiling Mount

Duct Static Pressure Sensor
Wall/Duct Mount without Display

Duct Static Pressure Sensor
Wall/Duct Mount with Display

Smoke Detector
Duct Mount

Remote Display
Handheld or Wall Mount

Digital Time Clock
Wall Mount

Digital Time Clock
Exterior Enclosure

HEATERS

RH Series Electric Duct Heater
(for indoor units only)

EK Series Electric Duct Heater
(for indoor units only)

GH Series Indirect Gas-Fired
Duct Furnace (indoor or rooftop)