Unit Control Options

Microprocessor

Models ECV, ERV, and ERVe are available with an optional microprocessor controller that is programmed, wired and tested in the factory prior to shipment. The controller can operate stand-alone or integrate with a building management system (BMS) using BACnet® MSTP or IP or Modbus RTU or IP protocols. Control features include:

- LCD display with full text readout
- Built-in keypad for easy set point adjustment
- Integral 7-day time clock
- Optional remote display for service convenience
- Built-in frost and economizer controls
- Supply and exhaust fan modulation capabilities
- Monitoring points for temperature and/or relative humidity
- Web user interface
- Heating enable sequence for external hot water or SCR electric heater (provided by others)

Web User Interface (UI)

Greenheck's microprocessor controller comes standard with a web user interface allowing the unit to be viewed and controlled from a web browser. With an Ethernet connection from the unit to the facilities network, a full graphic, specific to the unit selected, will allow for monitoring and control of the unit without a building managements system (BMS). Other features include full control display access and service contact information.

Remote Display

The optional remote display allows for remote monitoring and adjustment of parameters of the unit mounted controller. The remote display allows identical access to menus and screens as the unit mounted controller display and is ideal for non-BMS applications.

Optional Accessories
Airflow Monitor
CO_2 Sensor
Coatings for Corrosive Environments
Damper End Switches
Dirty Filter Sensor(s)
Double-wall Construction
Energy Wheel Rotation Sensor
Hinged Access
Modulating VFDs
Remote Control Panel
Roof Curb
Smoke Detector

Common Applications	
Animal Shelters	Locker Rooms
Conference Centers	Multifamily Housing
Dormitories	Nursing Homes
Hotels	Office Buildings
Institutions	Schools
Veterinary Hospitals	

Product Certifications

ETL Listed for electrical and overall unit safety. Every unit is tested at the factory before it is shipped to the jobsite.

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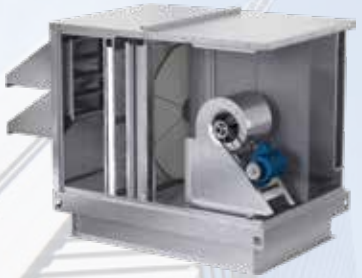
Energy Recovery Ventilators

Model MiniVent



Model ERVe

Model MiniCore

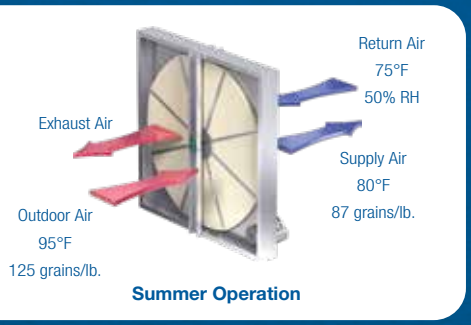
Model ECV

GREENHECK
Building Value in Air.

Energy Recovery Technologies

Energy Wheel

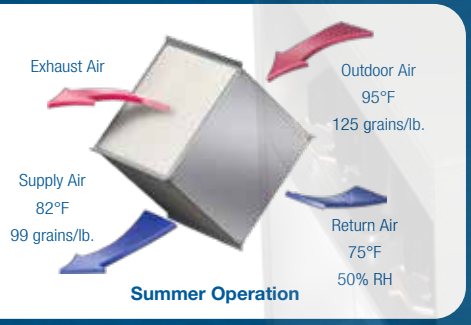
The energy wheel rotates between two airstreams while transferring both sensible (heat) and latent (moisture) energy.



The total energy wheel is constructed of a polymer heat transfer media for sensible energy transfer and a silica gel desiccant that is permanently bonded to the polymer media for latent energy transfer. Total energy wheels are the most efficient energy recovery devices available. When supply and exhaust airflows are balanced, energy wheels have an enthalpy recovery ratio (ERR) of up to 80%. Energy wheels have a life expectancy up to 20 years and offer easy maintenance as wheel segments remove for washing. Each wheel cassette (less motor) carries a five-year manufacturer's warranty.

Energy Core

The energy core crosses air with the core without direct air-to-air contact while transferring both sensible (heat) and latent (moisture) energy.



The total energy core is offered in either a fiber or polymer membrane, layered in a cross-flow corrugated structure. The core separates the supply and exhaust airstream, ensuring only fresh air is introduced into the indoor space. The fiber and polymer membrane media transfers both sensible energy (heat) and latent energy (moisture). When supply and exhaust airflows are balanced, energy cores have an enthalpy recovery ratio (ERR) of up to 60%. An energy core has a life expectancy of up to 20 years and offers easy maintenance. Fiber membrane cores an have surfaces vacuum cleaned and polymer membrane cores can be washed. Each energy core carries a five-year manufacturer's warranty.

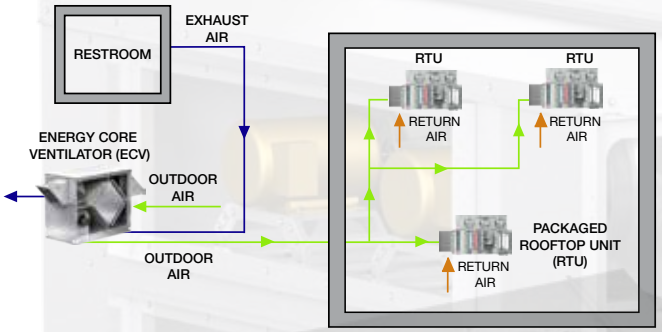
How does energy recovery work?

Energy recovery is the process of transferring energy between the conditioned return air from the space and the fresh, outdoor air, which imposes the load on mechanical equipment. Fresh, outdoor air enters the energy unit where an energy recovery wheel or core treats the air before entering the heating and cooling equipment.

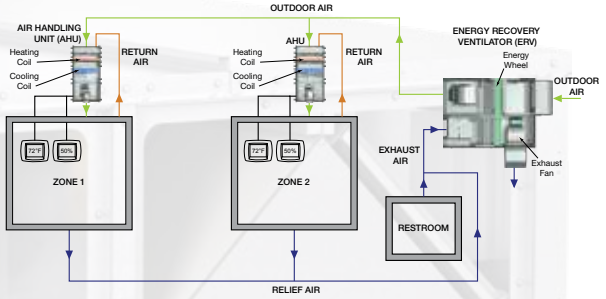
Energy Recovery Applications

These diagrams illustrate how energy recovery units can be used in conjunction with other HVAC equipment. Whether ducting into terminal units such as air handlers or directly feeding into a rooftop unit, the preconditioners provide the ability to reduce the outdoor air loads on those systems. Energy recovery reduces the outdoor air ventilation load by up to 50%.

Energy Recovery with Packaged Rooftop Equipment



Energy Recovery with Ducted Air Handlers



Preconditioner Selection Guide

Model	ER Technology			Mounting		Performance		Control Options							Certifications	
	Polymer Wheel	Fiber Membrane Core	Polymer Membrane Core	Indoor	Outdoor	Minimum Volume (cfm)	Maximum Volume (cfm)	Microprocessor	BMS Integration	Frost Control	Economizer	Vari-Green® Motors	Fan VFDs	Motorized Dampers	UL Certified	AHRI 1060 Certified
ERM	✓			✓		600	10,000								✓	✓
MiniVent	✓			✓		150	850			✓		✓			✓	✓
ERV	✓			✓	✓	500	12,000	✓	✓	✓	✓	✓	✓	✓	✓	✓
ERVe	✓			✓	✓	1,000	6,000	✓	✓	✓	✓		✓	✓	✓	✓
MiniCore		✓		✓		150	1,000			✓		✓			✓	✓
ECV		✓	✓	✓	✓	500	5,000	✓	✓	✓	✓	✓	✓	✓	✓	✓

Preconditioners Selection Software

Greenheck's free online eCAPS® Engineering Application Suite can now simplify and optimize your selection of energy recovery preconditioners. Just CLICK on the Preconditioners product category. ENTER your project requirements. REVIEW your selections for size, energy recovery performance, weight and electrical load specifications. Then create a SCHEDULE. eCAPS also helps you locate and contact your nearest Greenheck rep. It's easy to use and always up-to-date.