

YORK® UNITIZED ENERGY RECOVERY VENTILATOR (ERV)

Top 10 advantages



INCREASING COMFORT
MAXIMIZING EFFICIENCY
PROVIDING TRUE ECONOMIZER

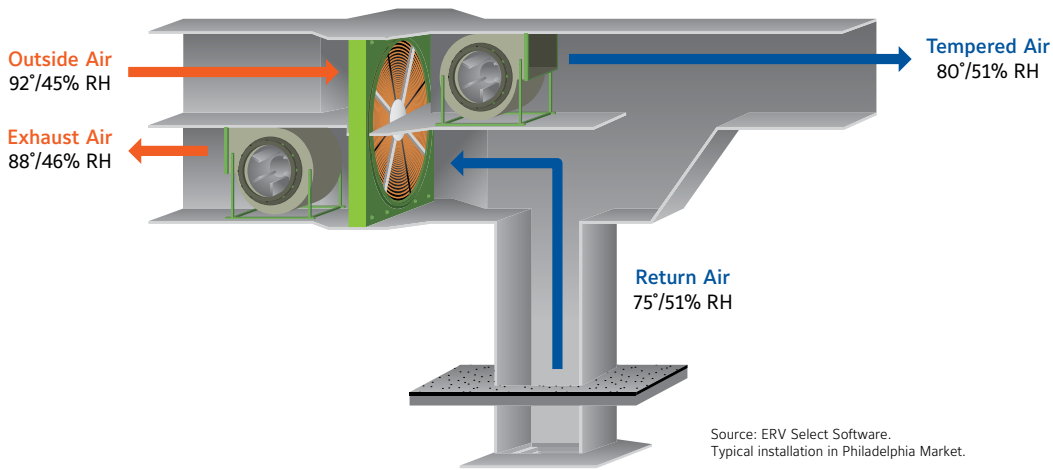
 **YORK**[®]
BY JOHNSON CONTROLS

Maximize efficiency and save money

There are many reasons to install an ERV, but the best reasons are to recover energy and lower utility expenses. Workplace and school environments have a high concentration of people and need plenty of fresh air. Adding fresh air lowers the CO₂ levels in a building and helps keep the occupants alert and healthy. ERVs also help control odors as the stale air is exhausted out of the building and fresh air is brought in.

When fresh air is brought into a building, conditioned air is exhausted back outside to equalize the pressure. The air leaving a building has energy in it – warm energy in the winter and cool energy in the summer. An ERV captures about 70% of that warm or cool energy from the air leaving the building and puts it back into the fresh air entering the building. This recapturing of energy means the rooftop unit does not have to work as hard, which translates into lower monthly utility bills.

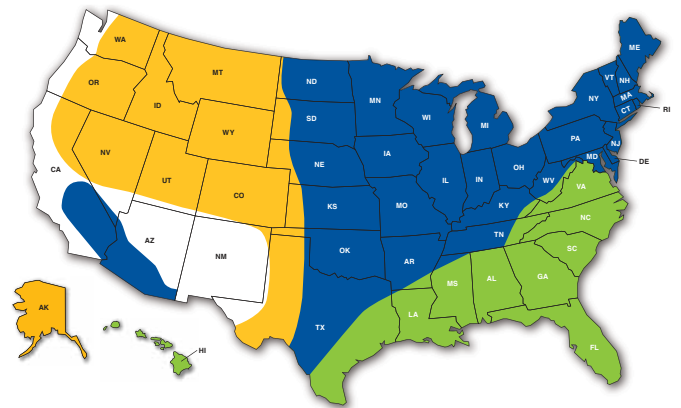
TYPICAL HVAC SYSTEM USING ENERGY RECOVERY – SUMMER OPERATION



Top 10 reasons why you should use the YORK® Unitized ERV

1 Terrific payback!

Minimum outside air ventilation requirements are often the largest single load on an air conditioning and heating system – especially at design conditions. The greater the degree days and the greater the outside air amount, the greater the savings.



Regional Payback

- ERV payback typically 0 to 2 years
- ERV payback typically 2 to 7 years
- ERV payback typically immediate

TYPICAL SAVINGS REALIZED BY USING A YORK® UNITIZED ERV

Supply cfm	Exhaust cfm	Collg Saved MBtu	Cooling \$ Saved	Heating Saved MBtu	Heating \$ Saved	Fan kWh Used	Fan \$ Spent	Net Savings
3100	3000	157,501	2,065	177,485	2,275	13,733	1,467	2,873

2 Less tonnage required!

Systems using YORK® Energy Recovery Ventilators reuse (recycle) about 70% of the energy from the exhaust air to heat, cool, dehumidify or humidify the incoming fresh air, which takes that portion of the load off of the rooftop units – in most conditions the outside air load is significant – and results in less tonnage required to meet the design conditions.

YORK® AIRX ERC DESIGN POINT ANALYSIS		3/4/2011	
DESIGN CONDITIONS	Dry Bulb, F	Wet Bulb, F	Enthalpy, Btu/lb
SUMMER, Outdoor	93.00	75.00	39.14
SUMMER, Indoor	75.00	63.00	28.95
WINTER, Outdoor	18.00	17.00	6.14
WINTER, Indoor	72.00	54.00	22.36
Project Unit:		Model Number: P36-01	
SUPPLY AIR FLOW RATE, cfm	3600	3600	3600
EXHAUST AIR FLOW RATE, cfm	3600	3600	3600
Latent Effectiveness	57.41%	57.11%	57.11%
Sensible Effectiveness	65.90%	65.81%	65.81%
Total Effectiveness (S/W)	61.1%	63.6%	63.6%
SUPPLY AIR CONDITIONS	Summer	Winter	
Dry Bulb Temperature, F	80.91	52.93	
Wet Bulb Temperature, F	67.83	42.55	
Enthalpy, Btu/lb	32.76	16.64	
Relative Humidity, %	52.0	14.4	
DESIGN LOADS, Btu/lb	Summer	Winter	
Outside Air, Sensible	65,448	208,525	
Outside Air, Latent	88,944	60,436	
Outside Air, Total	154,391	268,961	
RECOVERED LOADS, Btu/lb	Summer	Winter	
Sensible Recovered	43,132	132,000	
Latent Recovered	51,347	32,989	
Total Recovered	94,480	164,989	
Net OA Load	59,912	103,972	
INSTALLED HVAC REDUCTION			
COOLING, Tons	7.87		
HEATING, Btu/h		164,989	

3 ERV and ECONOMIZER!

YORK® has a patented wheel design that allows the energy recovery wheel to pivot out of the airstream during 100% economizer mode. This eliminates the pressure drop of the wheel and allows for the best of both worlds – an ERV when needed for normal ventilation operation and an economizer when conditions call for it.



4 Fits all major brands of 2 to 30 ton!

YORK® is the only manufacturer that has design-specific ERVs to match all the major YORK® air conditioning manufacturers. Just tell us the model number and we do the rest!



5 Did we mention ease of installation?

The ERV installs similarly to an economizer. Appropriate blank-off panels are provided where necessary specific to the manufacturer. Typical installation time is less than an hour.



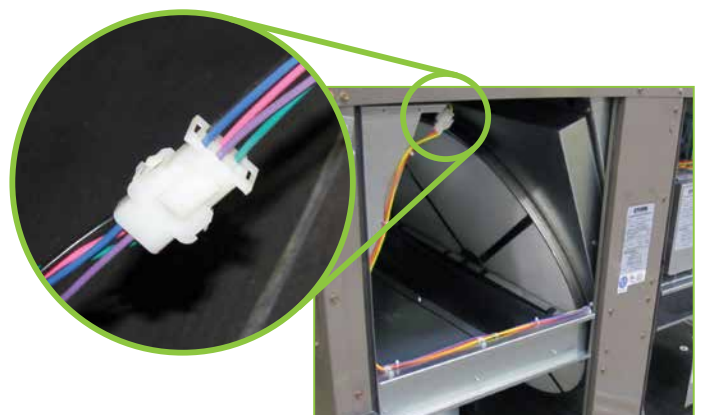
6 Adjustable legs!

Don't worry about the height of the curb for your rooftop unit – our legs adjust to the height you need. The legs can extend down to the roof, or to an equipment support rail based on job requirements. All YORK® Unitized ERVs come with this standard feature.



7 Plug-and-play installation method!

Every YORK® ERV ships with an interface wiring harness that connects the economizer directly to the ERV with a single plug. This allows the communication between the economizer and ERV to ensure proper wheel position.



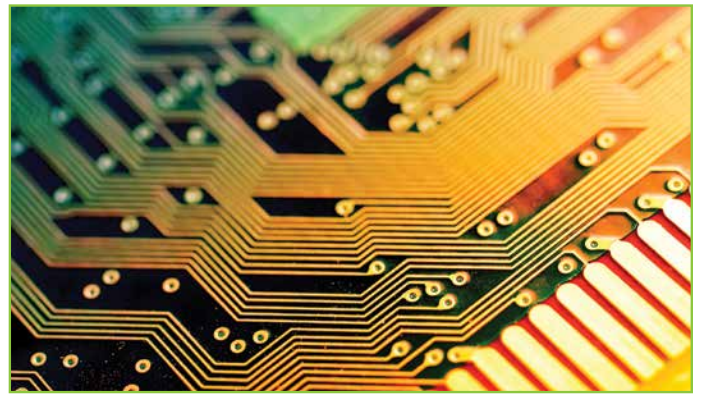
8 No roof penetration!

The YORK® Unitized ERV matches exactly to any existing rooftop unit, eliminating the need for another roof penetration. This not only saves on installation costs, it also eliminates the risk of a roof leak that may occur with roof penetrations.



9 Controls on-board!

YORK® Unitized ERVs come with the controls required to operate the unit and interface with the rooftop unit. All operation and control logic – including the frost control kit, economizer function and motorized isolation dampers – are onboard the unit. This means minimal control interface between the ERV and the rooftop unit and easy operation for you.



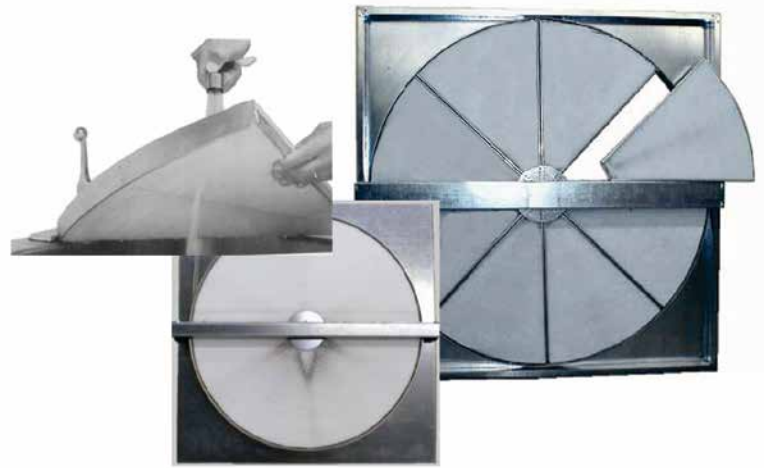
10 Color my world!

Every YORK® Unitized ERV is custom powder-coat painted to match the rooftop manufacturer. Our long lasting durable powder paint enamel will withstand even the most demanding conditions.



AHRI certified energy recovery wheel

- Reduces A/C and heating energy consumption
- Improves comfort of occupied space
- Improves equipment life and efficiency
- Silica is permanently bonded to the wheel which absorbs humidity and gives year round humidity regulation
- 60% to 70% effective (per AHRI)
- U.L. and NFPA Fire Rating Approved
- Proven 25-year performance
- Available as an enthalpy wheel or as a sensible-only energy recovery
- Easy-to-clean



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