

APPLICATIONS EXPERTISE

ENERGY RECOVERY

ENERGY RECOVERY FOR HIGH OUTDOOR AIR APPLICATIONS

When conditioning large amounts of very cold, very warm, or humid outdoor air, energy recovery becomes especially important. Exhaust air energy recovery provides these economic benefits:

Lower operating costs: Energy recovery increases system efficiency.

Lower installed system costs: Energy recovery reduces mechanical cooling and heating loads and, therefore, reduces required capacities of cooling and heating components.



EXPERTISE GAINED FROM THOUSANDS OF INSTALLATIONS

Valent's focus on energy recovery design, construction, and control has been rewarded with thousands of successful installations that are energy efficient, durable, and that improve indoor air quality (IAQ).

Optimized energy recovery is critical for high outdoor air applications. Rely on Valent to do it well.

BREADTH OF TECHNOLOGIES

- Multiple energy recovery options ensure the right product fit for the application
- ASHRAE 90.1 compliant
- Heat transfer material options provide high-efficiency moisture removal, low maintenance, and low cross-contamination

PROPER DEFROST MANAGEMENT

- Winter defrost cycle keeps supply fan and heat source operational, not shutting the unit down to defrost
- Space temperature and ventilation stays consistent at all times



FULL-SIZE WHEELS

- Energy recovery sized to handle full outdoor and exhaust air volume
- Delivers maximum enthalpy effectiveness
- Low pressure drop across wheel does not require economizer bypass

MEETING EFFICIENCY, IAQ, AND MAINTENANCE REQUIREMENTS

Valent is known for offering a broad selection of energy recovery technologies. When choosing for a specific application, priorities usually fall into three areas:

- **Energy efficiency:** If energy efficiency is the priority, choose enthalpy wheels, which are the most efficient.
- **IAQ:** If IAQ is the priority, choose enthalpy core heat exchangers, which allow almost no leakage across airstreams.
- **Low maintenance:** If low maintenance is the priority, choose enthalpy core heat exchangers, which have no moving parts.

ENTHALPY WHEEL		ENTHALPY CORE	
			
HEAT TRANSFER MEDIUM		HEAT TRANSFER MEDIUM	
Polymer	Aluminum	Polymer	Fiber
LATENT AND SENSIBLE ENERGY RECOVERY		LATENT AND SENSIBLE ENERGY RECOVERY	
Best	Best	Better	Good
INTERNAL PRESSURE DROP		INTERNAL PRESSURE DROP	
Moderate	Moderate	High	High
LEAKAGE ACROSS AIRSTREAMS		LEAKAGE ACROSS AIRSTREAMS	
Some	Some	Low	Low
MAINTENANCE		MAINTENANCE	
Some	Some	Low	Low
AVAILABLE ON MODELS		AVAILABLE ON MODELS	
Valent VXE 12, 112, 212, 312	Valent VXE 112, 212, 312	Valent VXC 112, 212	Valent VXC 112, 212

LEARN MORE

- www.valentair.com
- [Valent Energy Recovery Applications webpage](#)
- [Valent Products Catalog](#)
- [Valent Products Datasheet](#)



OUTDOOR AIR EXPERTS | ROBUST DESIGNS | DEDICATED SUPPORT