

## 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.

**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



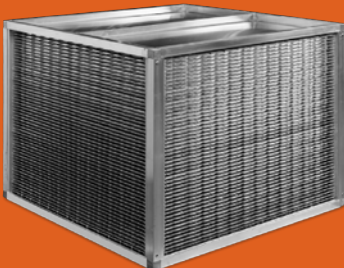
### FULL-SIZE WHEELS

- 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 sensible or enthalpic plate heat exchangers, which allow almost no leakage across airstreams.
- **Low maintenance:** If low maintenance is the priority, choose sensible or enthalpic plate heat exchangers, which have no moving parts.

ENTHALPY WHEELS	ENTHALPIC PLATE	SENSIBLE PLATE
		
HEAT TRANSFER MEDIUM		
Polymer or aluminum	Polymer	Aluminum
ENTHALPIC AND SENSIBLE ENERGY RECOVERY		
Best	Better	Good
INTERNAL PRESSURE DROP		
Moderate	High	Low
LEAKAGE ACROSS AIRSTREAMS		
Some	Low	Almost none
MAINTENANCE		
Some	Low	Almost none
AVAILABLE ON MODELS		
VALENT VXE and VPRE	VALENT VPRC	VALENT VPRP

## LEARN MORE

- [www.valentair.com](http://www.valentair.com)
- [Valent Energy Recovery Applications web page](#)
- [Valent Products Catalog](#)
- [Valent Products Datasheet](#)



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