

FULL WIDTH ENERGY RECOVERY WHEELS

SAVE ENERGY AND REDUCE CAPACITY NEEDS

Valent 100% outdoor air units utilize energy recovery wheels that span the entire width of the cabinet for maximum energy efficiency and continual compliance to ASHRAE 90.1.

MAXIMIZE ENERGY SAVINGS

- In a DOAS unit, all outdoor air should flow through the wheel during normal operation to maximize heat transfer and reduce operating costs
- Short circuiting outdoor air around the energy recovery wheel reduces energy efficiency and drives the need for larger mechanical cooling components
- Valent 100% outdoor air units with energy recovery always have full width energy recovery wheels, available in polymer or aluminum

	FULL WIDTH WHEEL	PARTIAL WIDTH WHEEL
Supply/Exhaust Airflow	18,000 cfm	18,000 cfm
Wheel Bypass Airflow	0	6,000 cfm
Summer Conditions	95°/75° F	95°/75° F
Post Wheel Conditions, including Bypass Air	82°/68° F	87°/70° F
Summer Enthalpy Recovery Ratio	59%	42%
Winter Conditions	0°	0°
Post Wheel Conditions, including Bypass Air	41° F	28° F
Winter Enthalpy Recovery Ratio	57%	39%

NO BYPASS DURING NORMAL OPERATION

- Bypass should only be used for economizer if required by local codes
- Low pressure drop across wheel does not require economizer bypass
- Allowing air to flow around the energy recovery device during non-economizer operation significantly decreases the efficiency of the unit

REDUCE COOLING AND HEATING CAPACITY REQUIREMENTS

- Energy recovery reduces mechanical cooling and heating loads and, therefore, reduces required capacities of cooling and heating components
- The use of full width wheels has a significant impact on unit capacities lowering both first cost and ongoing operating costs

	FULL WIDTH WHEEL	PARTIAL WIDTH WHEEL
Supply/Exhaust Airflow	18,000 cfm	18,000 cfm
Wheel Bypass Airflow	0	6,000 cfm
Summer Conditions	95°/75° F	95°/75° F
Cooling Tons Required	59 tons	67 tons
Winter Conditions	0°	0°
Heating MBH	640 MBH	864 MBH

LEARN MORE ABOUT ENERGY RECOVERY

- www.valentair.com
- Visit the [Applications Expertise](#) section of Valent's website.
- [Contact your Valent Representative.](#)



OUTDOOR AIR EXPERTS | ROBUST DESIGNS | DEDICATED SUPPORT

valentair.com

Valent Full Width Energy Recovery Wheels DS 062121