
OXYGEN8
We help create **healthy spaces for people to live, work, and play** in an energy efficient way.

[ox·y·gen·ate]

Our Mission

Nothing is more refreshing and essential to the human body than oxygen. Oxygen8's mission is to help create comfortable and healthy indoor spaces with 100% fresh, filtered outside air, for people to live, work, and play in an energy efficient way.

Our Story

We are innovators. With a history of problem solving through entrepreneurship, creativity and clean technology, we are passionate about indoor air quality and energy-efficient solutions. Our ventilation products provide 100% fresh, filtered outside air to building occupants using a decentralized approach. Oxygen8's product line includes high-efficiency energy and heat recovery ventilators, MERV 13 filtration and integration with Daikin VRV technology.

Why We Do What We Do

To Create Healthy Indoor Environments

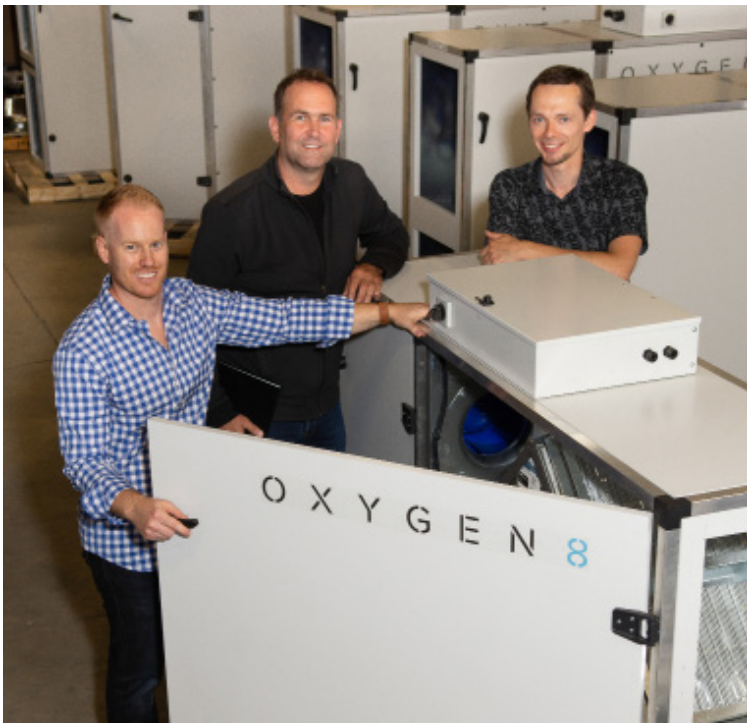
Indoor air quality can suffer when recirculated air is not properly filtered or humidity is poorly controlled, contributing to discomfort and the spread of airborne contaminants. Healthier buildings balance fresh outdoor air with well managed recirculation, supported by appropriate filtration, humidity control, and energy recovery strategies including both fixed plate and rotary heat recovery technologies. Together, these approaches help regulate heat and moisture while reducing the risk of cross contamination between airstreams.

To Move Toward Building Electrification

To reduce greenhouse gases, many North American cities are moving toward net-zero energy over the next decade, which will drive demand for all-electric HVAC systems and low energy technologies. Oxygen8 is here to meet that demand with our all-electric heating and cooling solutions.

To Provide Solutions That Fit

As building design becomes more insulated and air-tight, the need for energy efficient cooling becomes ever more important. Cooling with fixed-plate energy recovery and VRV integration helps to reduce energy consumption while meeting ventilation requirements.



TARGET MARKETS

1. **Schools**
2. **Offices**
3. **Ventilation Retrofits**
4. **Senior Care & Medical Clinics**

All Electric

All-electric dedicated outside air systems with energy recovery helps to lower the carbon footprint of buildings. Solutions integrate with VRV to provide accurate temperature and humidity control.

Fresh Air That Fits

Low-profile, modular units help free up valuable roof and mechanical room space by using a split-system approach, and add floor space by eliminating vertical duct runs.

Sustainable IAQ

With high-efficiency H/ERV cores and ECM fans with high sensible and latent recovery, Oxygen8's solutions provide 100% outside air with low fan power at comfortable temperatures and humidity levels.

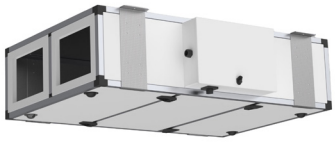
Integrated Solutions

Integrated DDC controls come with standard pre-programmed algorithms, allowing for remote monitoring and ventilation control strategies, including demand controlled ventilation. Stay connected real-time with cloud-based IAQ monitoring.

Healthy Air

Polymer membrane cores are AHRI certified, mold and bacteria resistant, water washable and have no virus cross-over tested to ASTM-F1671.

Commercial Ventilation Solutions

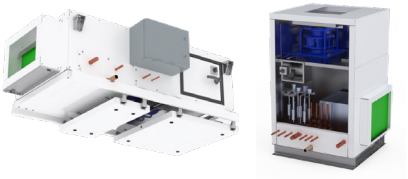


Nova
Low-profile ERV with cross-flow core and VRV/hydronic integration.

325 – 8,100* cfm

Nova Outdoor
Outdoor ERV with cross-flow core and VRV/hydronic integration.

325 – 8,100* cfm

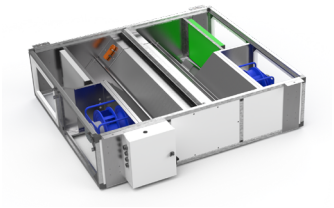


Terra H and V AHU
AHU with VRV and hydronic integration. (No energy recovery)

H 450 – 4,800 | V 450 – 10,000 cfm

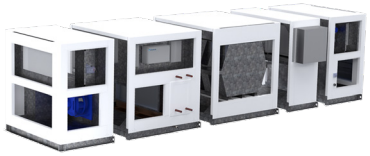
Ventum Lite
School and office focused counter-flow core HRV. Controls by others, not available with VRV.

200 – 1,200 cfm



Ventum
High performance H/ERV with counter-flow core and VRV/hydronic integration.

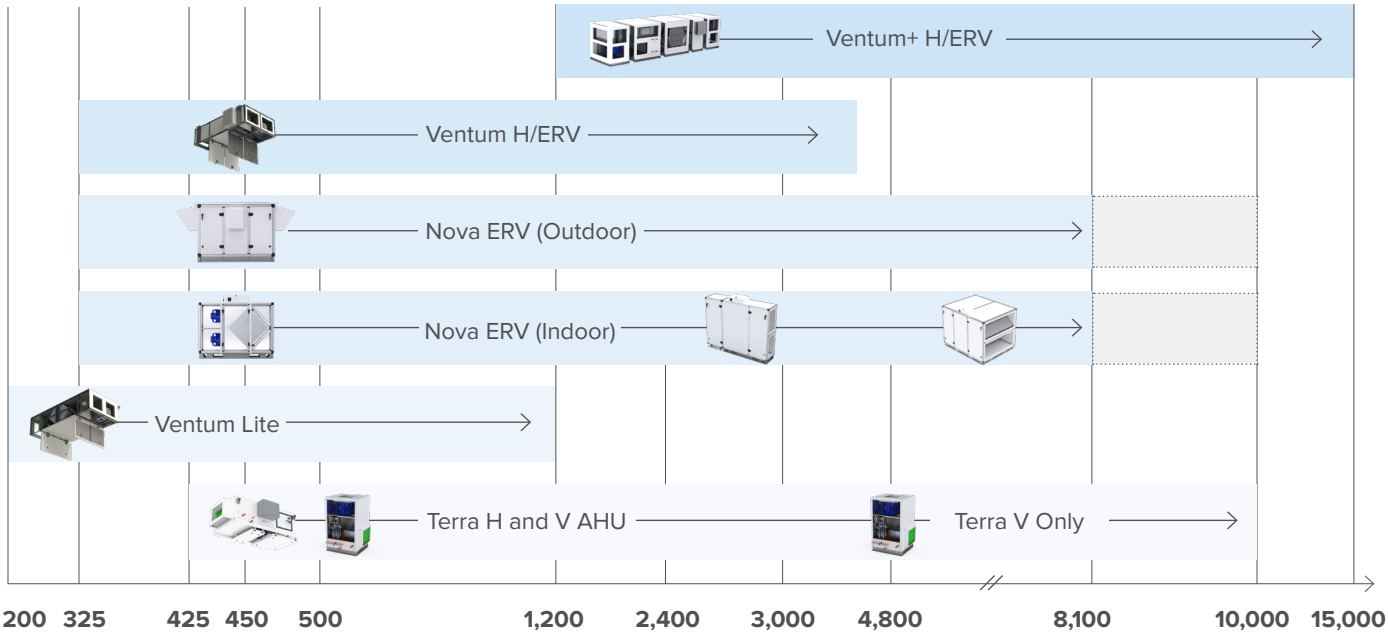
350 – 3,000 cfm



Ventum+
High performance modular H/ERV with counter-flow core and VRV/hydronic integration.

1,200 – 15,000 cfm

Oxygen8 Commercial Solutions Airflow Range (CFM)



*Nova can be sized to accommodate 10,000 cfm, contact Oxygen8's Applications Team for selections (applications@oxygen8.ca)

Commercial Product Line Comparison

At Oxygen8, we help create healthy spaces for people to live, work, and play in an energy efficient way.

	Nova • 325 – 8,100 cfm	Ventum Lite • 200 – 1,200cfm	Ventum • 350 – 3,000 cfm	Ventum+ • 1,200 – 15,000 cfm	Terra H • 425 – 4,800 cfm	Terra V 1,200 – 10,000 cfm
Heat (H) or Enthalpy (E) Recovery**	E	H/E	H/E	H/E	N/A	N/A
Core Type See Notes for Descriptions	◇	⬡	⬡	⬡		
Low Profile Design	•	•	•		•	
Model Number Format	A/B/C##	H04	H05+	V##	TR_C_###	TV_B_##
Indoor Model	•	•	•	•	•	•
Outdoor Model	•			•		
Orientation: Horizontal (H) or Vertical (V)	H/V	H	H	V	H	V
Integrated DDC Controls (Distech)	•		•	•	•	•
Daikin VRV (DX / HGRH) Integration See Notes for Limitations	•		•	•	•	•
Factory Mount and Wiring of Daikin VRV AHU Integration Kit	•		•	•	•	•
Factory Brazing of EKEXV Valve onto DX/HGRH Coil	•		•	•	•	•
Hydronic Coil Integration	•		•	•	•	•
Decoupled External Coil Module, Cooling or Heating	•		•			
Coupled External Coil Module, Cooling or Heating			•			
Integrated Draw-Through Coils				•	•	•
Ceiling Mount	•	•	•		•	
Floor Mount *Contact Oxygen8 for Special Options	•		*	•	•	•
Wall Mount	•		*			
Roof or Curb Mount (Optional Downshot Connections)	•			•		
ECM Fans	•	•	•	•	•	•
Single Circuit Power Connection: Electric Heater	•*	•	•*	•	•	•
Single Circuit Power Connection: Daikin VRV Integration Kit	•		•	•	•	•
Optional Core Bypass Damper	•		•	•		
Configurable Duct Connection Locations	•		•	Limited	Limited	Limited
Double Wall Foam Injected Panels	•		•	•	•	•
Filters: MERV 13 Supply Air / MERV 8 Return Air	•	•	•	•	•	•
Optional Mixing Box for Recirculation Applications				•	•	•
Manufactured in British Columbia	•	•	•	•	•	•
R32 Refrigerant Compliant	•		•	•	•	•
Passive House Certified			•	•		

To learn more about our solutions, visit us online at oxygen8.ca

Notes
Horizontal orientation refers to air ducts horizontally aligned with side openings. Vertical orientation refers to ducts aligned vertically with side connections. Top and bottom connections are available as optional with select offerings, see “Configurable Duct Connection Locations”.

Custom unit configurations are available, please contact Oxygen8 for more information.

Core Types

◇ Crossflow

⬡ Counterflow

**Heat (H) refers to sensible only, Enthalpy (E) refers to sensible + latent recovery

*Ventum Lite is has controllable fans speeds using a Distech wall-mounted thermostat.

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Residential Ventilation Solutions

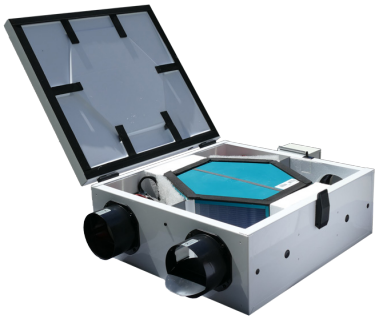
Salda H/ERV

HRV with counter-flow heat exchanger and bypass

27 – 341 cfm

82% SRE @ 82 cfm
0.6 watts/cfm

Passive House Certified



Vita HRV

Counter-flow core heat exchanger

30 – 120 cfm

82% SRE @62 cfm
0.5 watts/cfm

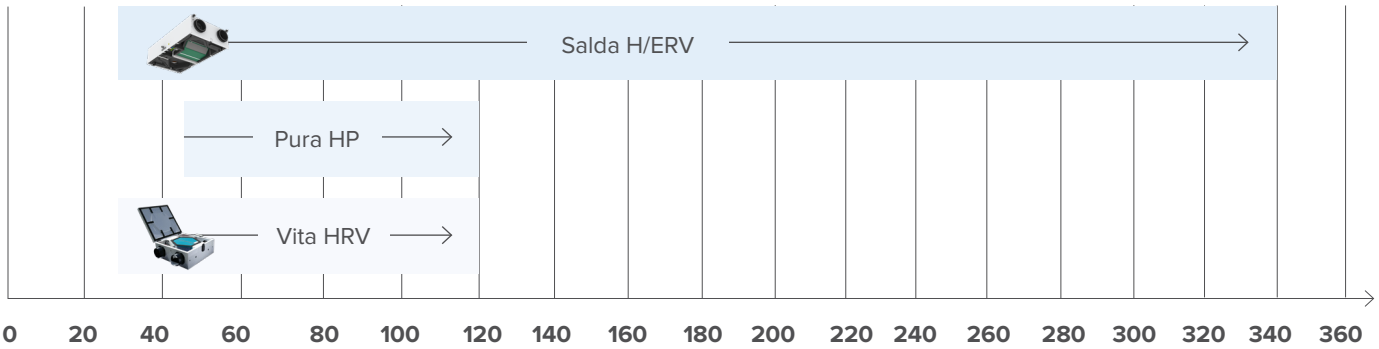
HVI Certified

Pura HP

Vertically mounted Cross-flow core Pura ERV with pre-assembled plenum and simple coupling to Daikin's FXTQ.

45 – 120 cfm

Oxygen8 Residential Solutions Airflow Range (CFM)



Residential Product Line Comparison

At Oxygen8, we help create healthy spaces for people to live, work, and play in an energy efficient way.

	Vita • 30 – 120 cfm	Pura HP• 45 – 120 cfm	Salda • 27 – 341 cfm
Heat (H) or Enthalpy (E) Recovery	H/E	E	H/E
Core Type See Notes for Descriptions	⬡	◇	⬡
Low Profile Design	•	•	•*
Indoor Model	•	•	•
Outdoor Model			
Core Orientation: Horizontal (H) or Vertical (V)	H	V	H/V
DDC Controls with BacNET IP			•
Ceiling Mount	•		•*
Floor Mount		•	•**
Wall Mount	•		•
ECM Fans	•	•	•
Timed Exhaust Defrost	•	•	•
Timed Recirculating Defrost			
Pre/Post Electric Heat (Controlled by Unit)			•
Pre/Post Electric Heater (Self-Controlled)	•	•	
Economizer Bypass			•
Boost Mode	•	•	•
Passive House Certified			•
HVI Certified	•		
Single Wall Styrofoam Insulation	•	•	
Single Wall Polystyrene Insulation			•
Accessories	•	•	•
Wall Controller (Required)			•
Backdraft Damper (As Standard)	•	•	

Availability

United States
All products available except Vita H/ERV in Boston, MA

Canada
Salda and Pura HP are available Canada-wide

Vita H/ERV available Canada-wide except in ON

Core Types

◇ Crossflow

⬡ Counterflow

**Heat (H) refers to sensible only, Enthalpy (E) refers to sensible + latent recovery

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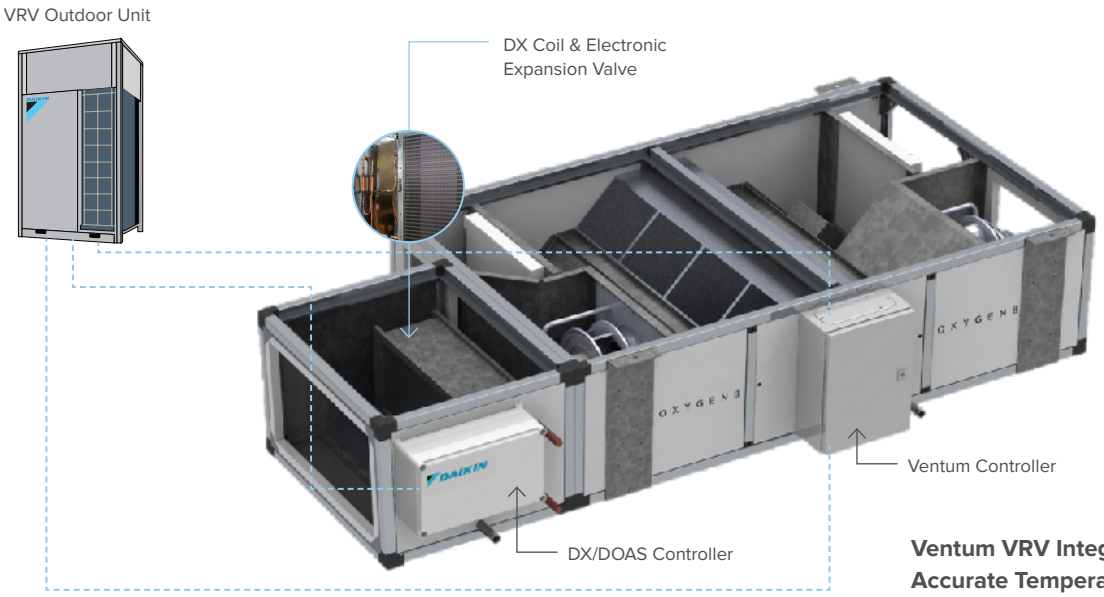
Optional Accessories (Vita/Pura HP)

120 VAC 10/20/30/60 minute timer
5VDC 20/40/60 minute timer
5VDC (Low/Intermittent/High) Switch
120VAC Motorized Dampers (with or without flanges 5” - 8”)
Electric Heaters (Self controlled)
MERV8/MERV13 Filters

Salda Standard Accessories

HMI Display
MB Gateway (for BacNET IP)
CO2 Sensor
Humidity Sensor
Electric Heaters (via 1-10V signal)
Unit Voltage: 208V/1ph/60Hz

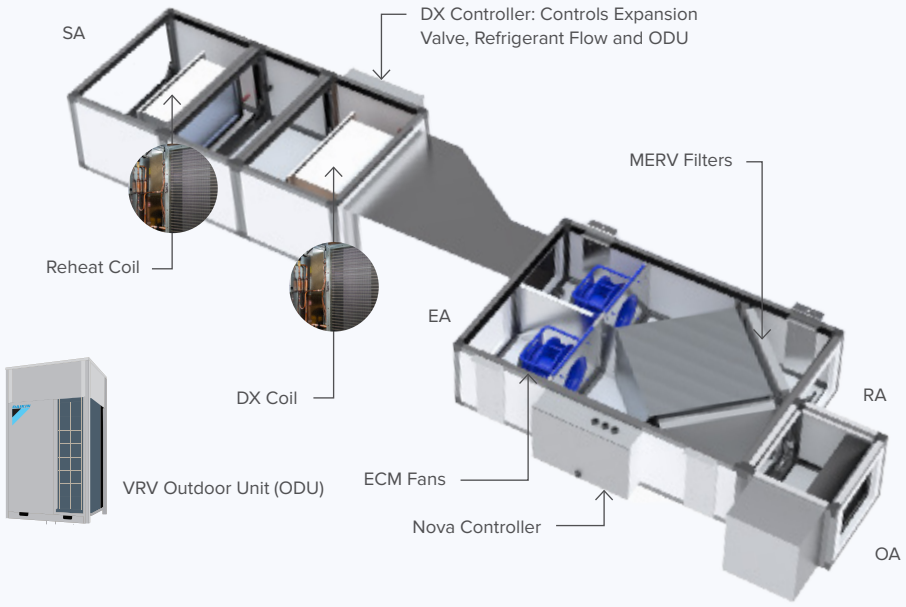
VRV and Hydronic Integration



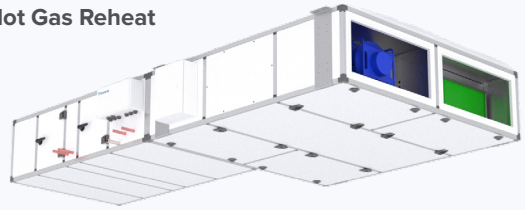
Ventum VRV Integration for Accurate Temperature Control.

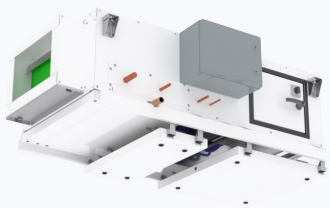
VRV Hot Gas Reheat Applications

Oxygen8 DOAS with VRV Integration provides 100% outside air at accurate temperature and relative humidity levels. The packaged split DOAS solution comes standard with all key components (DX Coils, Expansion Valves, VRV Controller) factory mounted for quick and easy field installation.



Ventum with Hot Gas Reheat

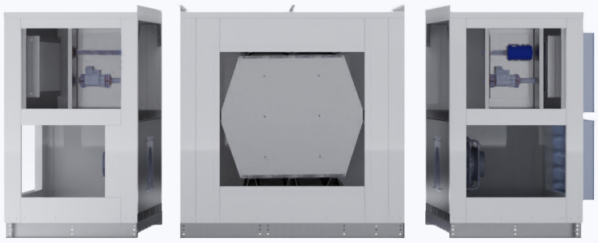




Terra with Hot Gas Reheat

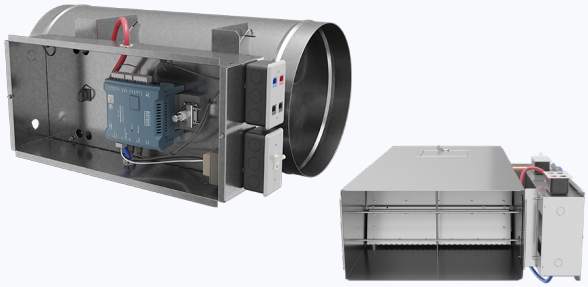
Passive House Certified Solutions

Ventum+ ERV
For Centralized Applications



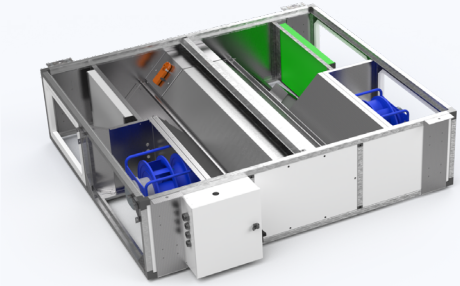
Passive House Airflow Range
495 – 6350 cfm

Modul8 Smart Air Control Valve
For Centralized Applications



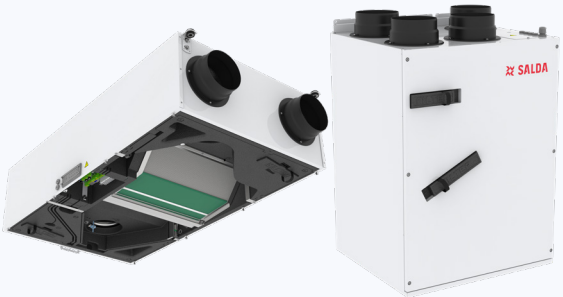
Passive House Airflow Range
Round: 205 – 3490 cfm
Rectangle: 1665 – 2600 cfm

Ventum ERV
For Semi-Decentralized Applications



Passive House Airflow Range
306 – 1295 cfm

Salda 2X/3X P&V H/ERV
For In-Suite Ventilation Applications

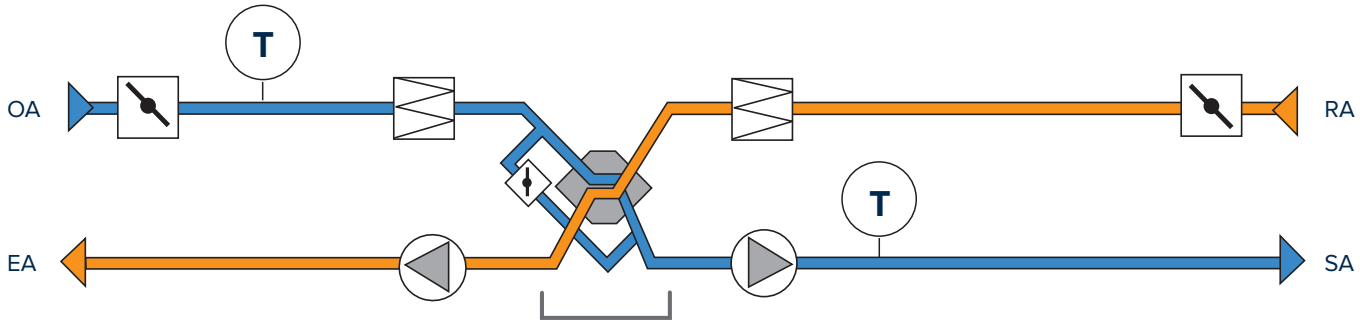


Passive House Airflow Range
2/3XP HRV 33 – 146 cfm | **2/3XP ERV** 48 – 154 cfm
2/3XV HRV 27 – 160 cfm | **2/3XP ERV** 27 – 168 cfm

For full performance details, certificates, and more, please reference the Oxygen8 Passive House Brochure.

Common Control Strategies

Economizer / Free Cooling



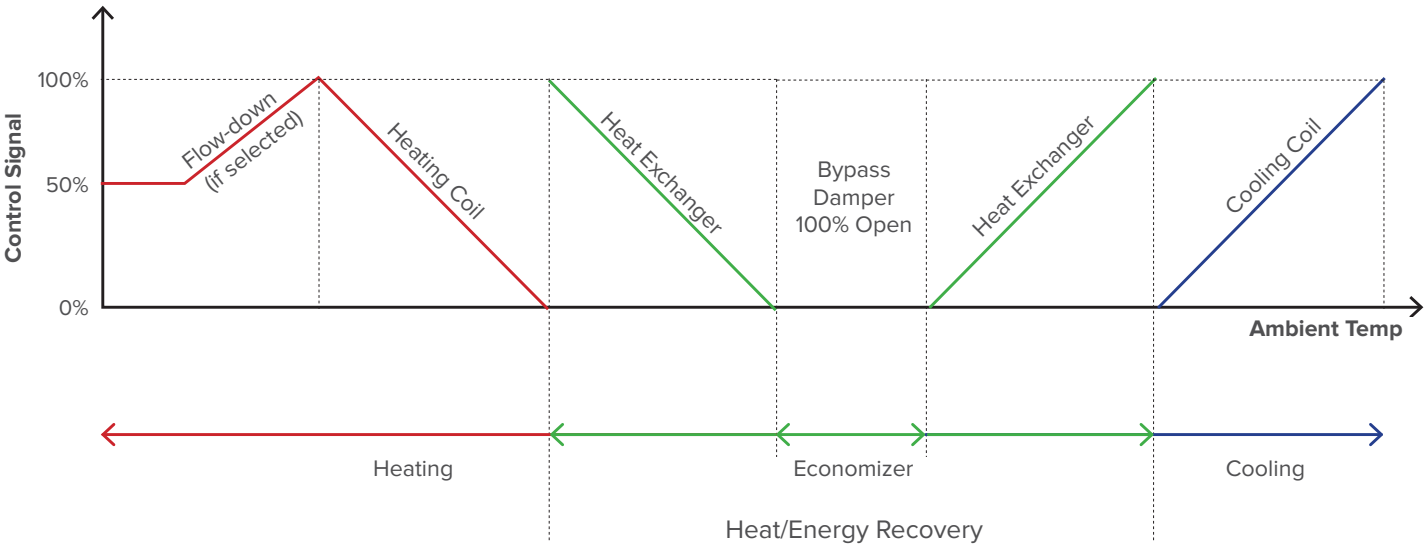
Filter
Fan
Damper
Electric Heating Coil
Pressure Sensor
Temperature Sensor
Counter-flow Heat Exchanger
Drain Pan
Hydronic Heating Coil
Hydronic Cooling Coil
Combo Heat/Cool Coil

Ventum's unit controller takes advantage of the economizer option to provide "free" cooling (or heating) by bypassing outdoor air around the core and directly supplying air into the building when conditions allow.

The control algorithm constantly monitors the outdoor and return air temperatures, while modulating the bypass damper based on the supply air setpoint.

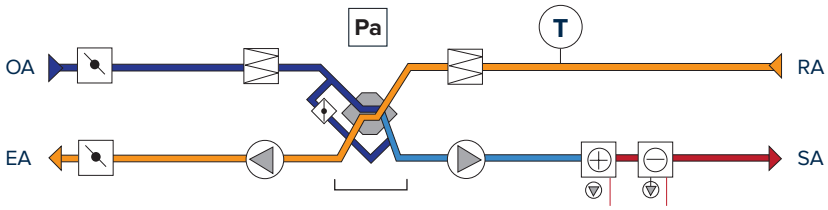
By default, the bypass will be controlled to 100% sensible recovery position when a cooling cycle is starting. If the outdoor air temperature raises to a value higher than the supply air temperature or room air temperature, then the cooling coil will be activated.

If the flow-down step function is activated (triggers during heating mode) and the setpoint cannot be reached with all heating sources active, the unit will decrease the flow down to 50% of the rated flow to attempt to achieve the desired setpoint



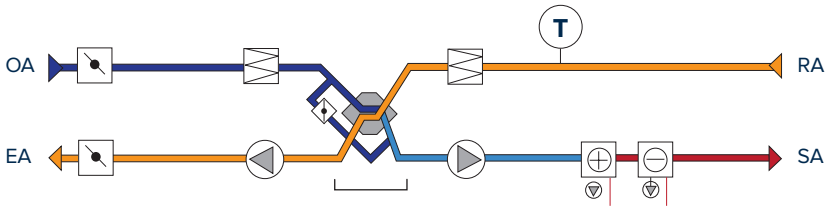
Defrost Strategy

Monitor Pressure Drop Across the Heat Exchanger



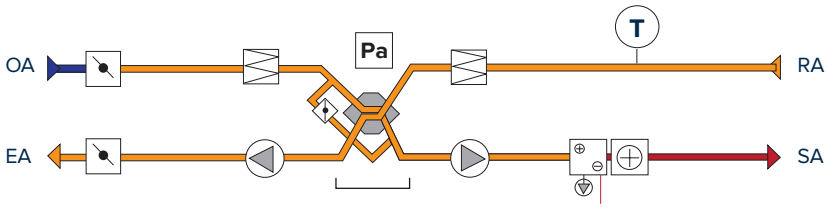
The heat exchanger can be protected against frosting by continuously monitoring the pressure drop (PD) across the heat exchanger. Defrost will start when the PD rises above the setpoint. During defrost the bypass damper will open 100% for a specified period of time.

Monitor the Exhaust Air Temperature



At temperatures below set value for the exhaust air temperature, the bypass damper will open to 100%. The outdoor air passes around the heat exchanger and the return air passes through the heat exchanger. Due to the relatively high room temperature, this function will lead to the thawing of the frost formation on the heat exchanger.

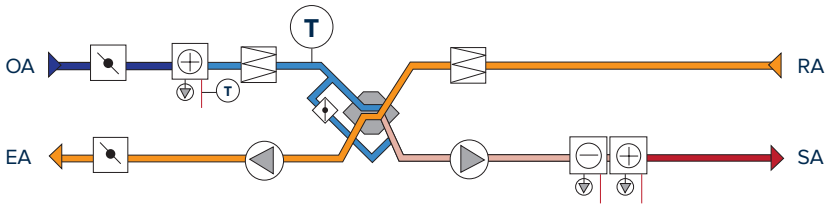
Timed Exhaust



When frost formation is detected the supply fan ceases operation for 5* minutes (*adjustable), while the exhaust fan continues to operate and thaw the ice accumulation on the heat exchanger. After 5 minutes, the supply fan will resume normal operation until frost is accumulated again. This cycle repeats itself until minimum normal operating cycle time, 30* minutes (*adjustable).

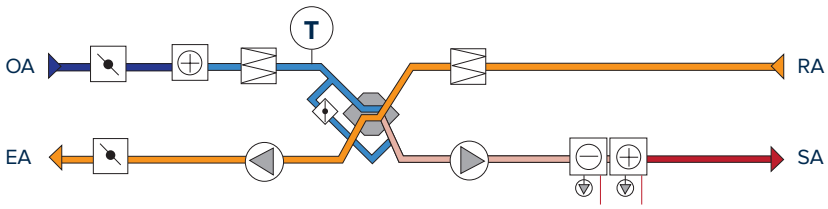
Frost Prevention

Hydronic Pre-Heat



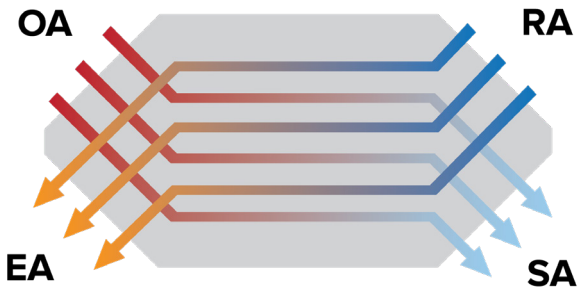
A hydronic pre-heat coil ensures that the temperature entering the heat exchanger is maintained at a required minimum temperature. If the maximum heat supply from the pre-heat coil cannot maintain the setpoint, a frost alarm will be activated and the fans will be stopped.

Electric Pre-Heat



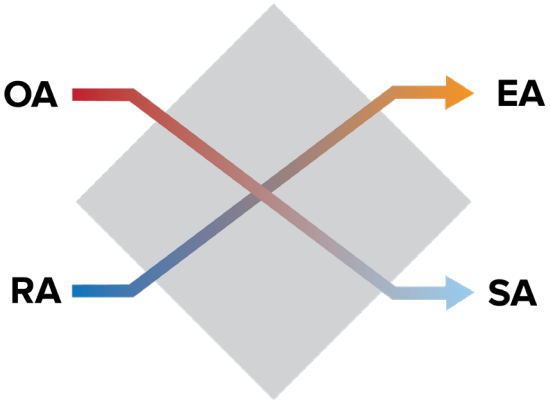
An electric pre-heat coil ensures that the temperature entering the heat exchanger is maintained at a required minimum temperature. The pre-heat temperature sensor will come installed in the unit, positioned in the outdoor air stream. Pre-heat is controlled by a 0-10V signal.

Heat Exchanger Technology



Counter-Flow Heat Exchanger

Heat recovery counter-flow heat exchangers provide up to 85% sensible effectiveness, while energy recovery counter-flow heat exchangers provide up to 75% sensible and 65% latent effectiveness. Fixed-plate enthalpy cores have no moving parts and require little to no maintenance. Due to the structure of the core, return and outdoor air never mix, eliminating the possibility of virus and contaminant crossover.



Cross-Flow Heat Exchanger

Energy recovery cross-flow heat exchangers provide up to 70% sensible and 55% latent effectiveness. Fixed-plate enthalpy cores have no moving parts and require little to no maintenance. Due to the structure of the core, return and outdoor air never mix, eliminating the possibility of virus and contaminant crossover.

Smart Controls by Distech

Standard Control Algorithms

1. Airflow Control

Constant Flow
Constant Pressure
Demand Controlled Ventilation
(CO_2/VOC, Occupancy)
Single Zone VAV

2. Temperature & Humidity Control

Constant Supply Air or Return Air Temperature
Cooling and Heating

3. Humidity Control

Humidification (3rd party)
Dew point control for dehumidification
Enthalpy Economizer

4. Defrost Control

Monitoring Pressure Drop Across Heat Exchanger
Exhaust Air Temperature
Timed Exhaust
Return Air VRV Defrost (Recirculation module required)

5. Frost Prevention

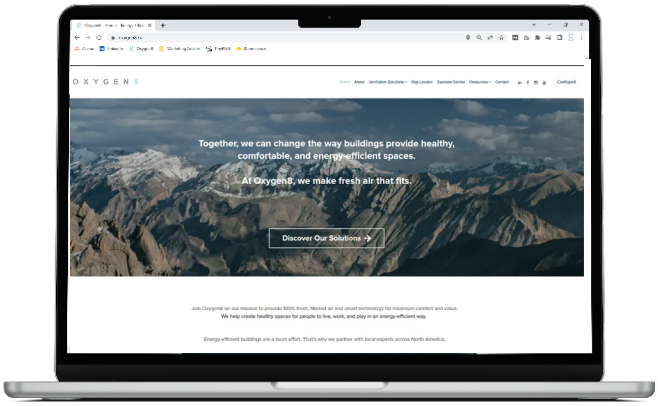
Electric Pre-Heat
Enthalpy Sensors (Temperature and Relative Humidity Measuring)
Hydronic Pre-Heat

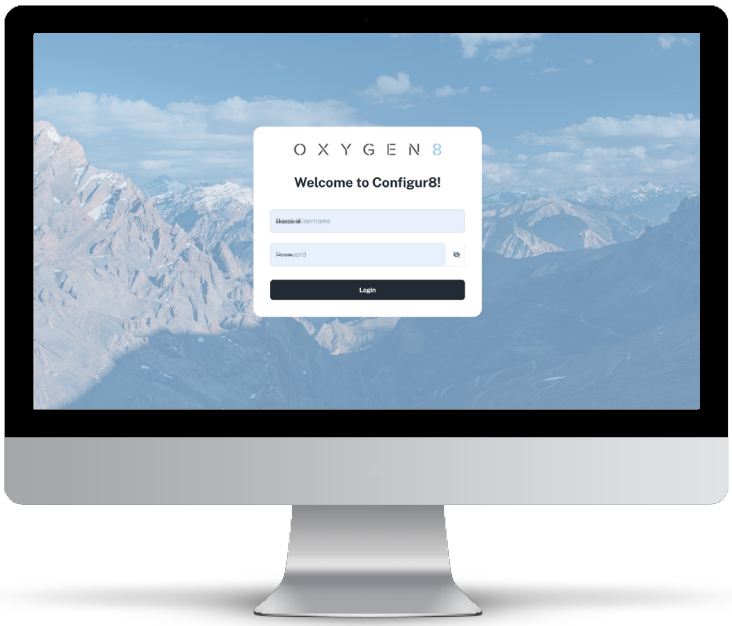
6. Remote Access

Via Building Network
Via BACnet IP

Digital Resources

Configur8 Selection Software & Website
Find literature and resources, learn more about Oxygen8 and available ventilation solutions, create selections and view existing projects.





Together, We're Better. Let's Connect.

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