
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

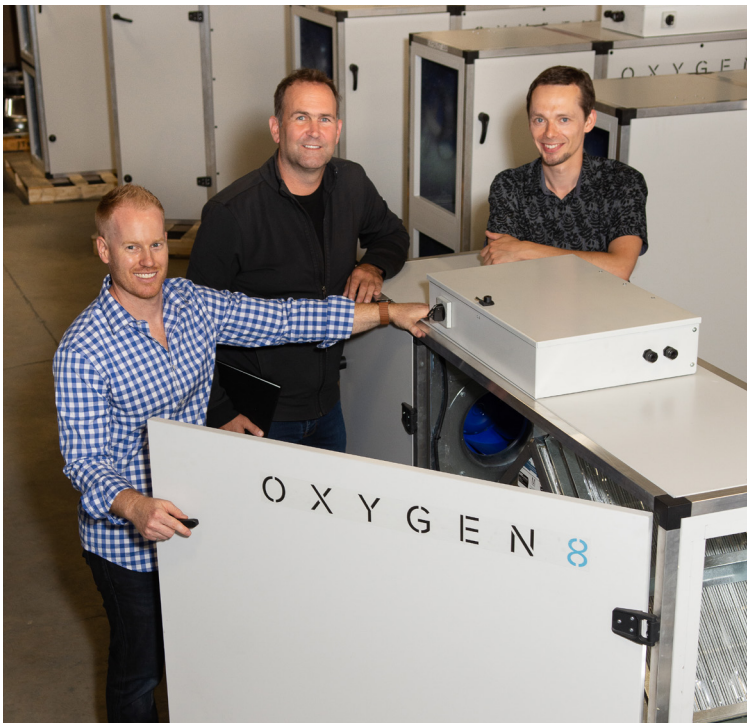
To improve the indoor air quality of environments, prevent the transmission of airborne contaminants and help improve occupant cognitive function, HVAC systems should provide fresh outdoor air, eliminate recirculation, use high MERV filtration and fixed-plate energy recovery technology to control humidity, reduce CO_2 and VOC levels, and eliminate cross-contamination between air streams.

To Move Toward Building Electrification

Many North American cities are moving toward net-zero energy and low carbon buildings, which will drive demand for all-electric HVAC systems and energy-efficient technologies. We are here to meet that demand with our all-electric ventilation, heating, cooling, and dehumidification solutions using VRV heat-pump technology and energy efficient components.

To Provide Solutions That Fit

Oxygen8's low-profile solutions allow both new construction and retrofit buildings with limited space to provide occupants with efficient and effective ventilation. Using decentralized ventilation (floor-by-floor or suite-by-suite), the need for vertical duct chases and bulky roof-mounted equipment is eliminated and buildings have more leasable space for rooftop terraces and green space. Decentralized systems use less fan energy with shorter duct runs and provide each zone with a dedicated ventilation system.



TARGET MARKETS

1. **Schools**
   K-12 and Higher Education
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.

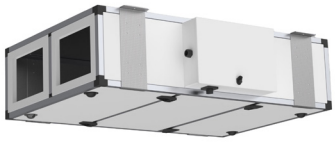
Integrated Solutions

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

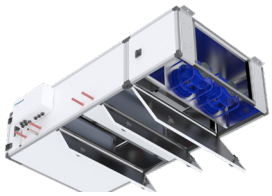


Nova
Low-profile ERV with cross-flow heat exchanger and VRV integration.

325 – 8,100* cfm

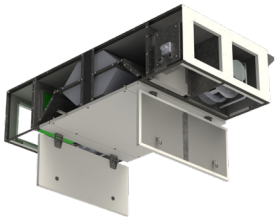
Nova Outdoor
Outdoor ERV with cross-flow heat exchanger and VRV integration.

325 – 8,100* cfm



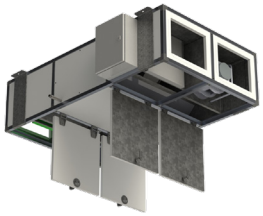
Terra DOAS
Low-profile DOAS with VRV integration. (No energy recovery)

425 – 4,800 cfm



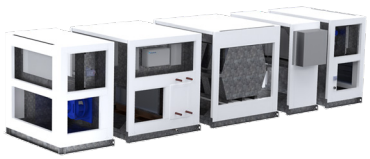
Ventum Lite
School and office focused counter-flow core HRV. Controls by others, not available with VRV.

200 – 500 cfm



Ventum
High performance H/ERV with counter-flow heat exchanger and VRV integration.

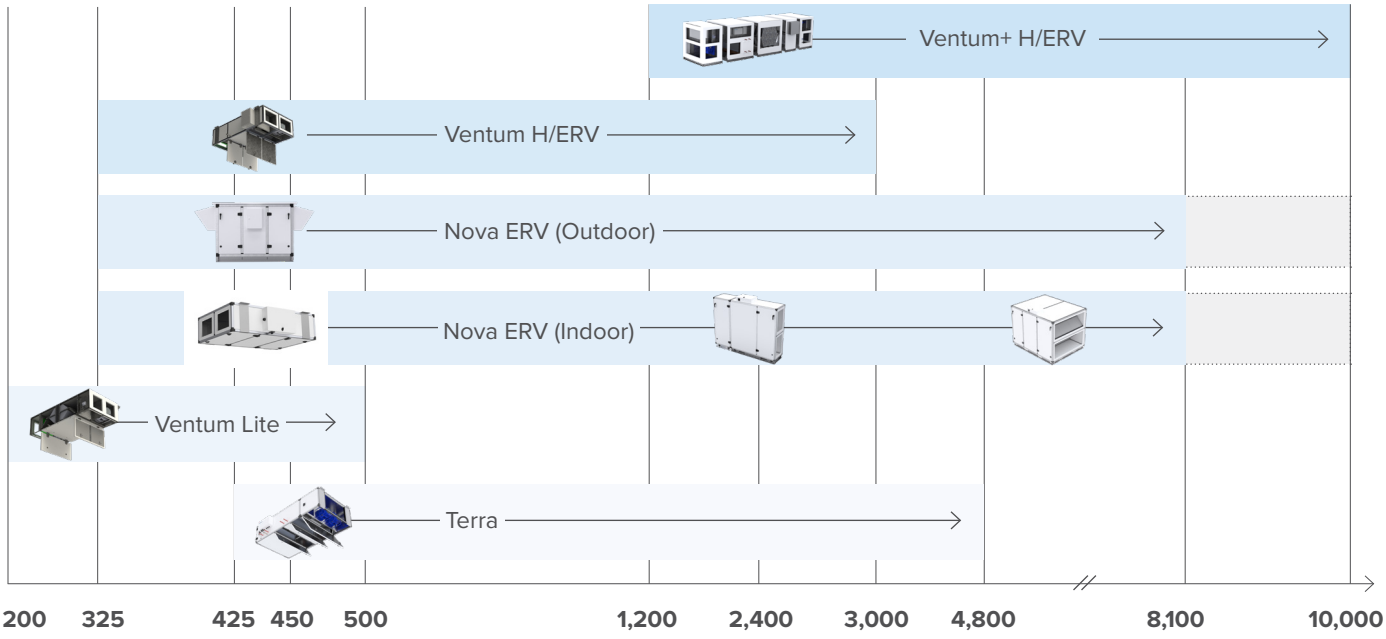
350 – 3,000 cfm



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

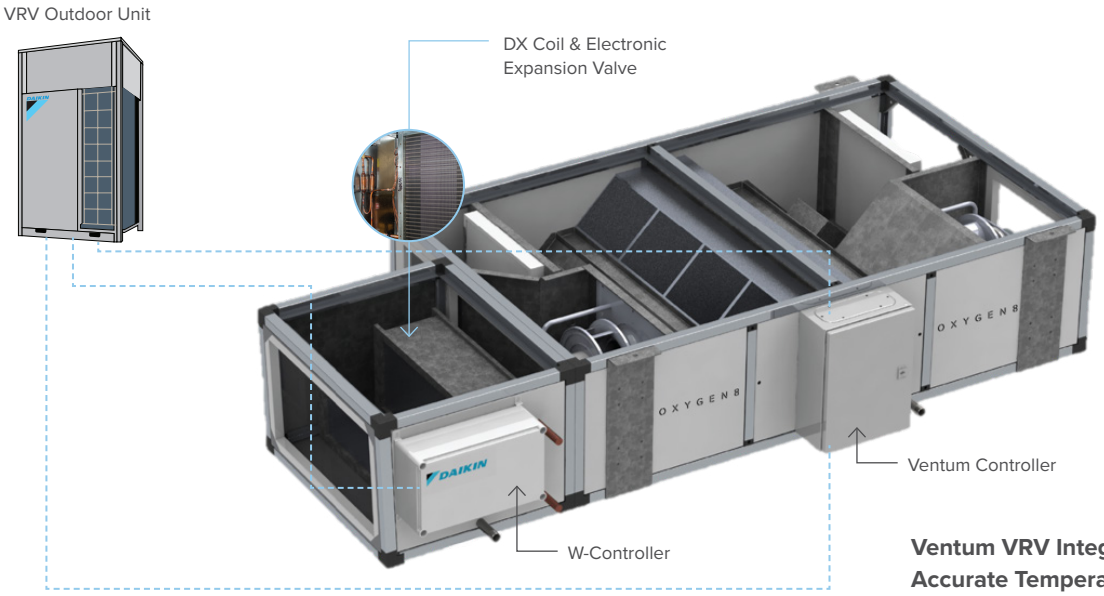
1,200 – 10,000 cfm

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)

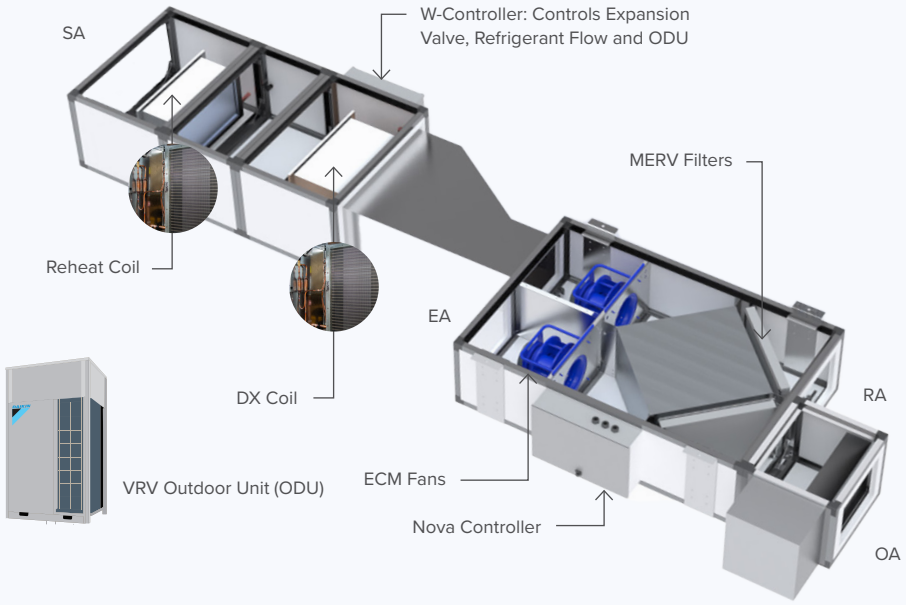
VRV Integration



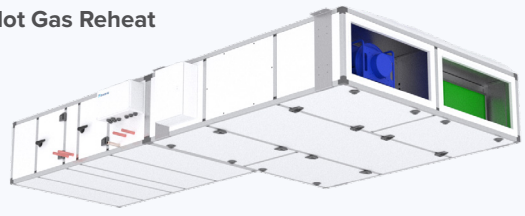
Ventum VRV Integration for Accurate Temperature Control.

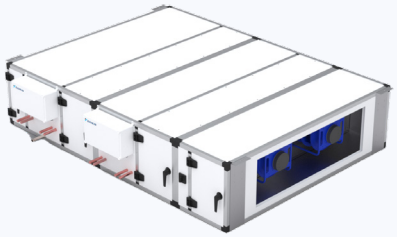
VRV Hot Gas Reheat Applications

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





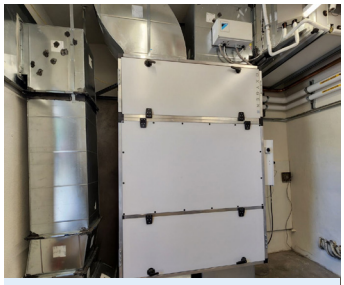
Terra with Hot Gas Reheat

Commercial Ventilation Success Stories

1 Schools


Robbins Elementary


uOttawa


Justin Sienna Locker Rooms


Lincoln Elementary

2 Offices


South Fayetteville Twnshp


900 Granville

Engenium Engineering


Vantage One

3 Retrofits


Abbotsford Stadium


Novus Toronto


Tabernacle Steakhouse


Slalom Heritage Building

4 Senior Care and Medical Clinics


Fort Dodge Clinic


Beebe Hospital


George Derby Senior Care


Emerald Tower Asst. Living

See more success stories at oxygen8.ca

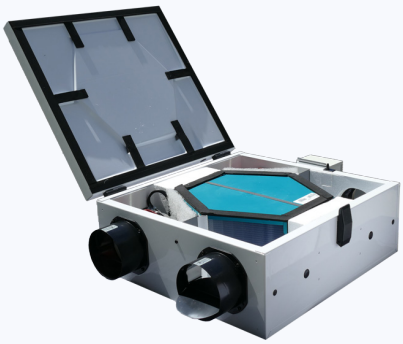
Residential Ventilation Solutions

Salda H/ERV
Passive House HRV with counter-flow heat exchanger and bypass.

18 – 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

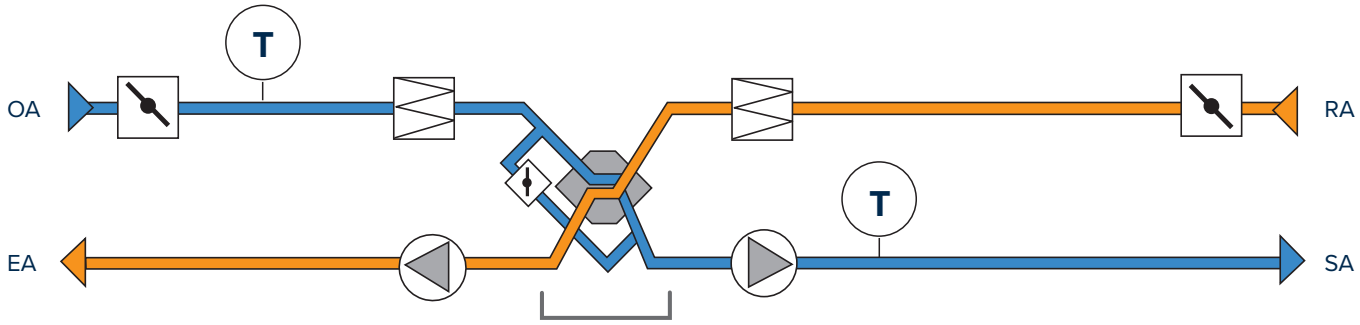
Pura HP
Vertically mounted Cross-flow core Pura ERV with pre-assembled plenum and simple coupling to Daikin's FXTQ.

45 - 120 cfm

Learn more at oxygen8.ca

Common Control Strategies

Economizer / Free Cooling



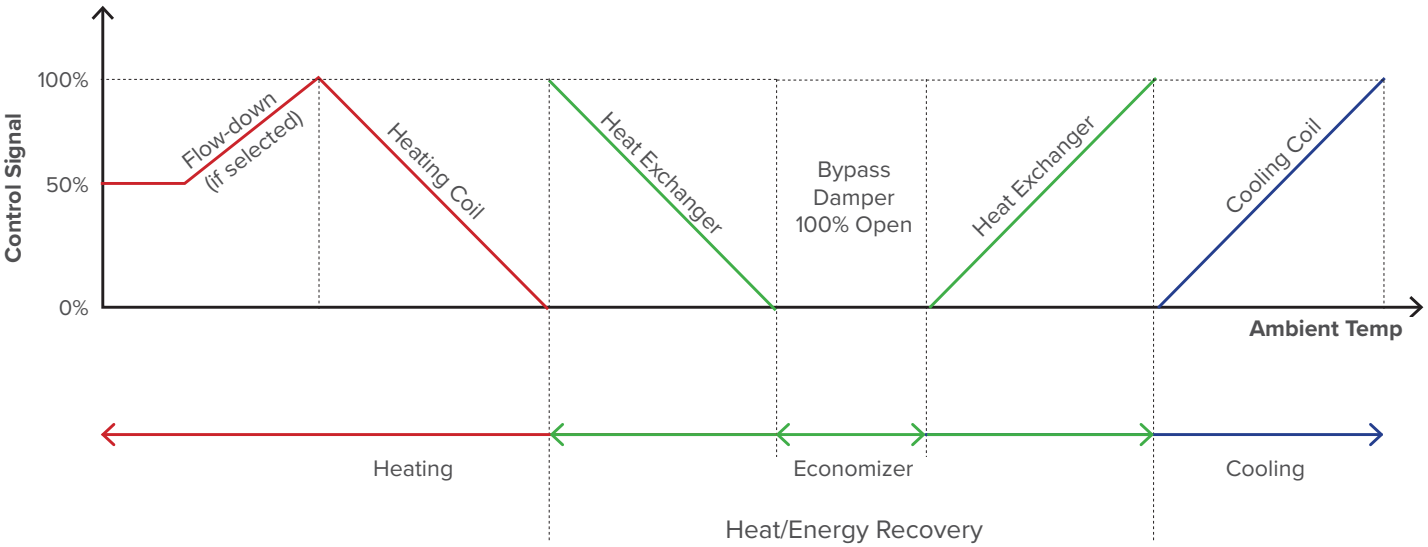
Filter
Fan
Damper
Electric Heating Coil
Pressure Sensor
Temperature Sensor
Counter-flow Heat Exchanger
Drain Pan
Hydronic Heating Coil
Hydronic Cooling Coil
Combo Heat/Cool Coil

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.

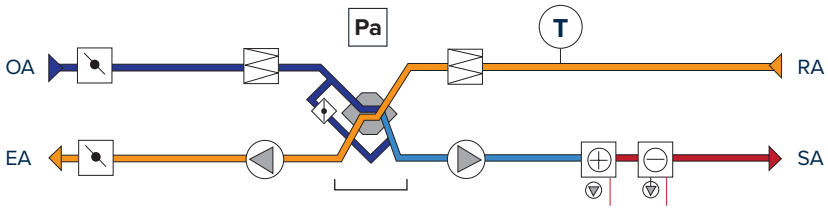
By default, the bypass will be controlled to 100% sensible recovery position when a cooling cycle is starting. If the outdoor air temperature raises to a value higher than the supply air temperature or room air temperature, then the cooling coil will be activated.

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



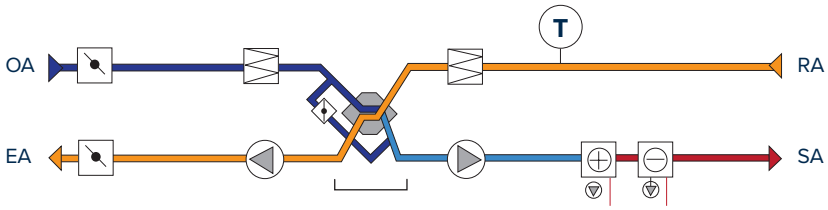
Defrost Strategy

Monitor Pressure Drop Across the Heat Exchanger



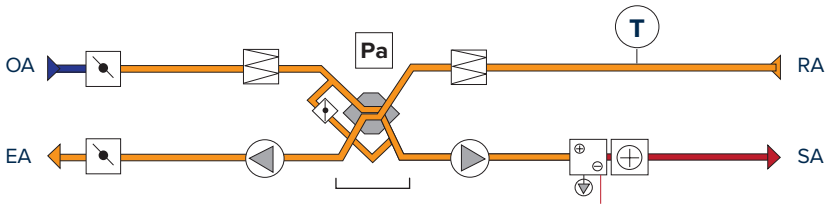
The heat exchanger can be protected against frosting by continuously monitoring the pressure drop (PD) across the heat exchanger. Defrost will start when the PD rises above the setpoint. During defrost the bypass damper will open 100% for a specified period of time.

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.

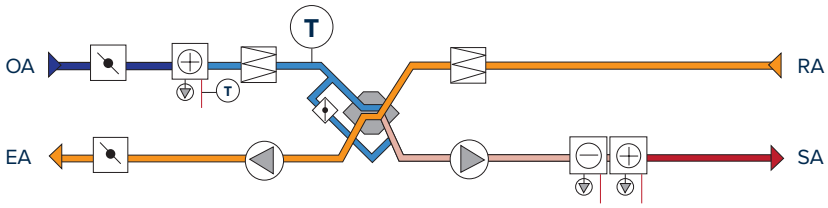
Timed Exhaust



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).

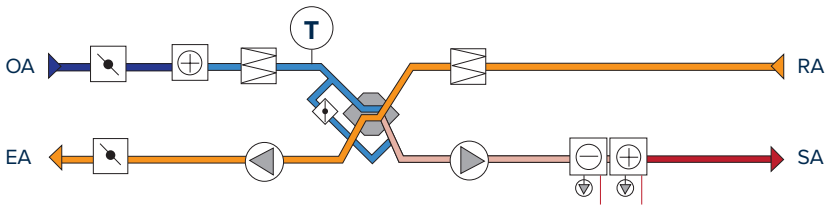
Frost Prevention

Hydronic Pre-Heat



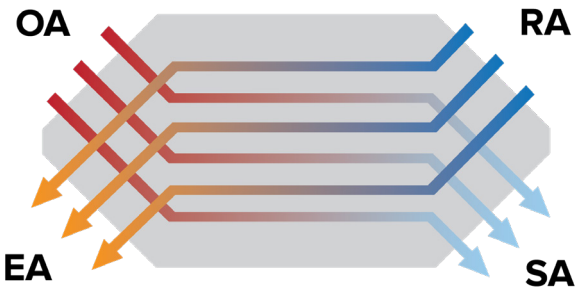
A hydronic pre-heat coil ensures that the temperature entering the heat exchanger is maintained at a required minimum temperature. If the maximum heat supply from the pre-heat coil cannot maintain the setpoint, a frost alarm will be activated and the fans will be stopped.

Electric Pre-Heat



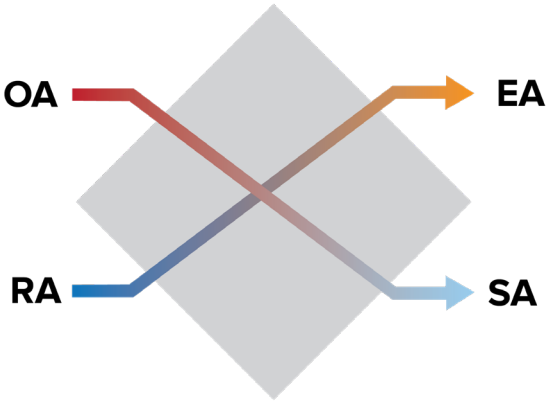
An electric pre-heat coil ensures that the temperature entering the heat exchanger is maintained at a required minimum temperature. The pre-heat temperature sensor will come installed in the unit, positioned in the outdoor air stream. Pre-heat is controlled by a 0-10V signal.

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.

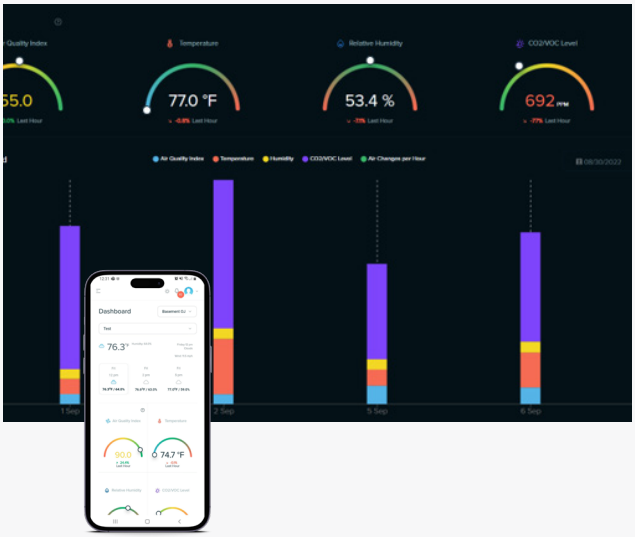


Cross-Flow Heat Exchanger

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.

IAQ Monitoring

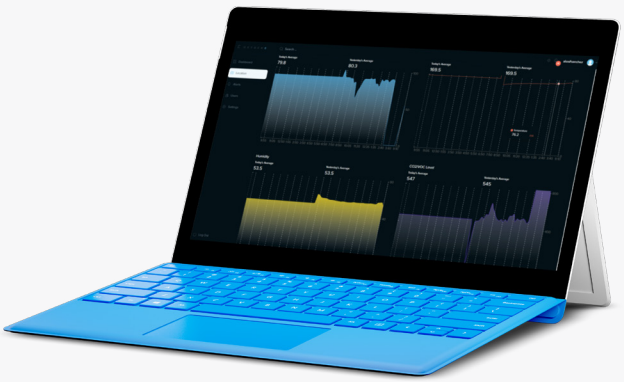
Stay connected with cloud-based indoor air quality management.



Monitor CO2, VOC, PM 2.5, Relative Humidity and Temperature, Real Time. Cloud-based IAQ management allows for optimal monitoring and control of dedicated outside air systems, without a traditional building automation system. Accessible via web or mobile, cloud-based IAQ management is suitable for most building types.

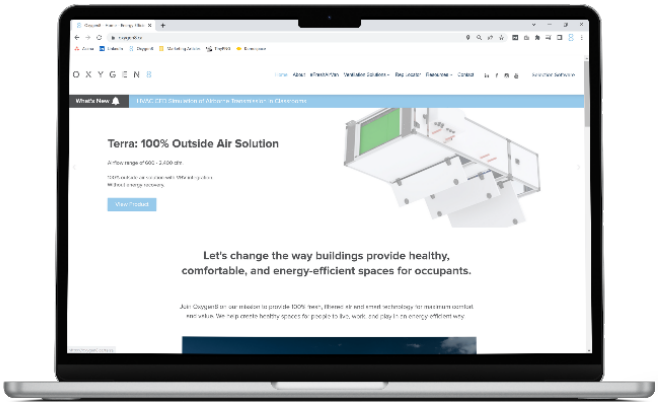
Remotely manage equipment with smart device sensors, enable alerts, alarms, and notifications for specific trends or issues, while gaining insight into how equipment is performing.

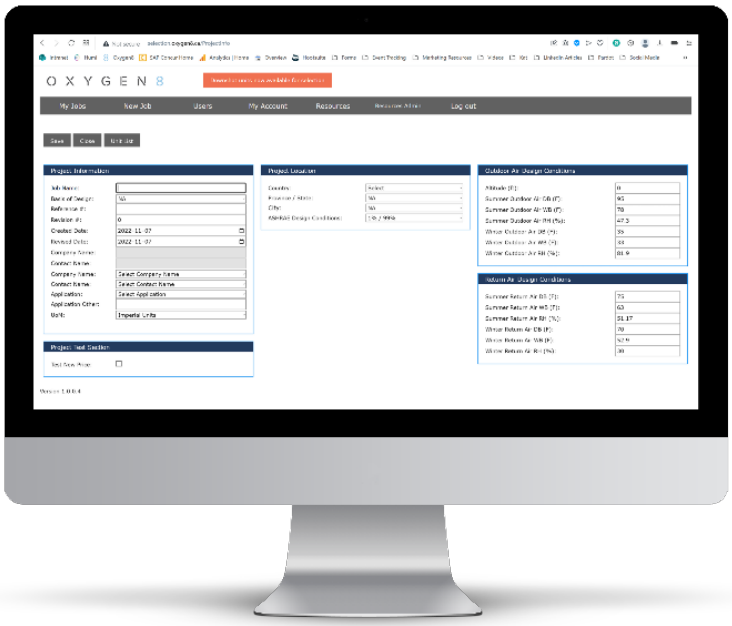
Learn More Contact your local Oxygen8 Sales Rep.



Digital Resources

Oxygen8 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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