

THE ULTIMATE IN IAQ  
AND THERMAL COMFORT

#HealthyLiving



## IQ BY ALDES VERTICAL FAN COIL UNIT

Integral ERV/HRV Unit Specifications



## About ALDES

For more than 30 years, Aldes North America has resolved challenging indoor air quality issues by taking a “systems approach” to ventilation. Aldes North America products are designed for superior airflow control, energy-efficient performance, and a healthy indoor environment.

Aldes North America has specialty ventilation products for single-family homes all the way to towering commercial buildings. Builders seeking LEED project credits or designers working within challenging constraints will find Aldes North America products are cost effective and suited to their ventilation and indoor air quality needs.

When designing your ventilation solution, the experts at Aldes consider many building factors: environmental conditions, building type, occupant demographics, local codes and regulations, as well as budget considerations. This thorough analysis ensures that the product you receive will be a tailored solution for long-lasting performance. We want you to be confident in your choice - from the moment you make the selection to years after installation. Every Aldes product is equal parts innovation and experience. Your business is our pleasure. Your satisfaction is our priority.

## Innovation = Energy Savings

IQ by ALDES is an intelligent ERV/HRV-integrated vertical fan coil (VFC) for high-rise apartments, condominiums, assisted living, and hotels. The IQ-VFC takes all the benefits of a standard vertical fan coil and builds in the energy-efficient ventilation of an Energy Recovery Ventilator (ERV) or Heat Recovery Ventilator (HRV). The result is a heating, cooling, and ventilation solution that works smarter, saves space, and reduces costs.

## Designed to increase efficiency by decreasing complexity

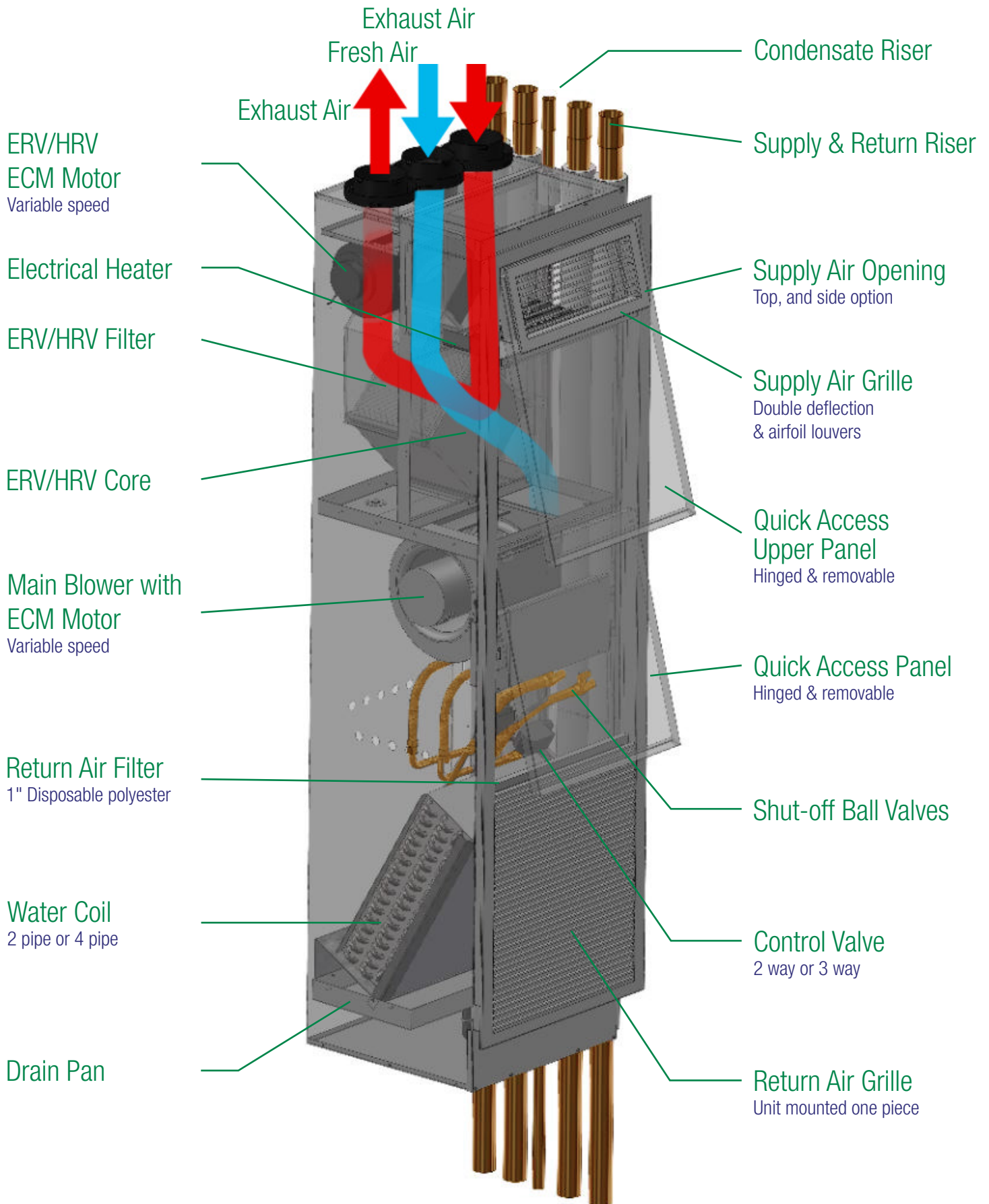
The IQ-VFC combines two traditionally separate systems into one compact and fully integrated heating, cooling, and ventilation solution.

The built-in heat or energy recovery ventilator utilizes highly efficient EC motors to provide up to 120 CFM and multiple speeds. The low volume continuous can be easily programmed in the field, with low-voltage accessories providing additional control over Indoor Air Quality. Designed to handle humidity even in extreme cold temperatures with Positive Protect™, the exhaust air is ducted directly from the bathroom, maximizing system efficiency and performance, while eliminating the need for additional fans or costly central systems. By building the H/ERV directly into the vertical fan coil chassis, the need for additional access panels or power supplies are eliminated.

With up to 75% recovery efficiency, there is no need for additional tempering after the heat exchanger. When not in heating or cooling mode, the IQ-VFC will operate at low speed to circulate the fresh outside air while blending the outside air with room air to guarantee mixed air temperatures close to room neutral year-round.

The most significant benefits of the IQ-VFC are those associated with the benefits of decentralized systems. Studies have shown that decentralized ventilation systems can save up to 35% over the cost of a typical central ventilation system. These savings are due in part to the elimination of supply and exhaust risers to each dwelling unit, no penetration of fire rated barriers into these units, saved floor space per floor from loss of risers, and a significant reduction in labor. These systems are also dramatically less complex than large central systems making them easier to design, easier to install, and simple to operate. Not only are decentralized systems more efficient by design, but in their operation too. By eliminating vertical runs in the unit ventilation systems and minimizing duct lengths, fans operate at lower pressure and without the impact of environmental factors like stack effect. Decentralized ventilation systems are the key to achieving truly high-performance buildings.



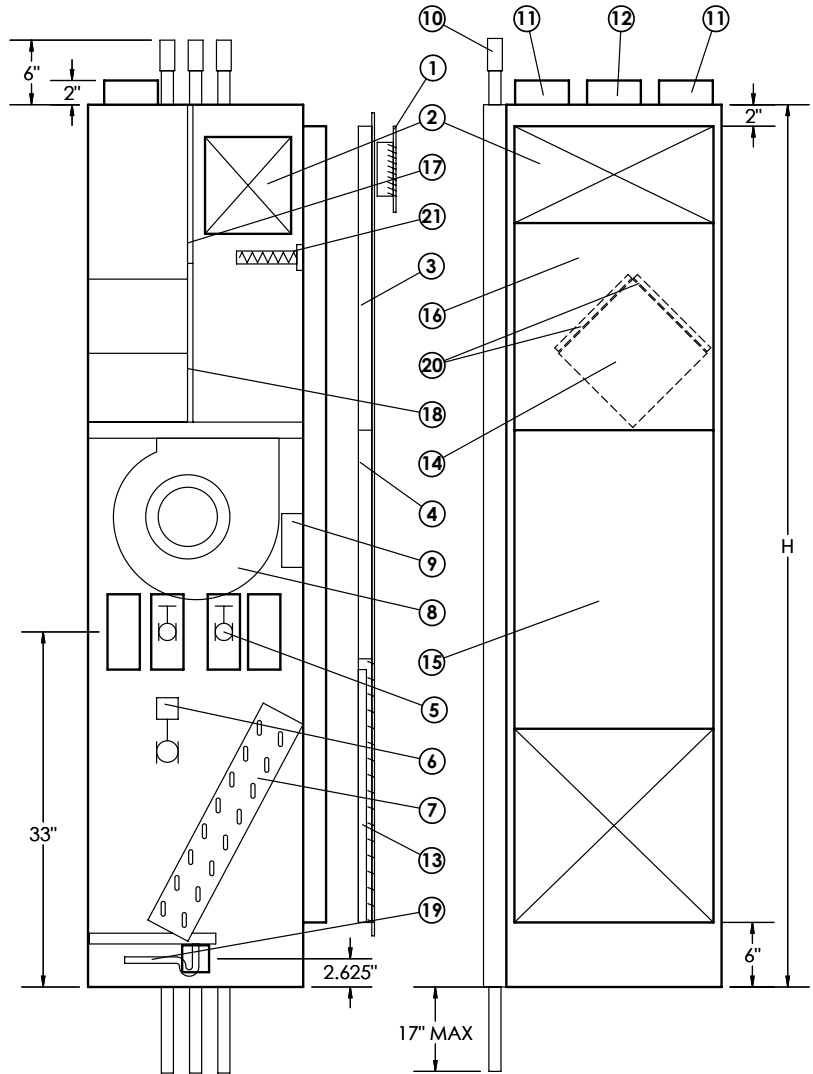




## VF2E: 2 PIPE

CHILLED/HOT WATER AND ELECTRIC HEAT WITH  
INTERGRATED HEAT OR ENERGY RECOVERY

1. Supply air grille
2. Optional side, front, or top opening
3. Upper access panel
4. Lower access panel
5. Supply & return shut off valve
6. Cooling/heating actuator
7. Water coil
8. Fan motor
9. Electrical box
10. Swaged riser connection
11. Exhaust air intake/discharge
12. Fresh air intake
13. Return air filter
14. Removable ERV/HRV core
15. Inner lower access panel
16. Inner upper access panel
17. Motor access panel
18. ERV/HRV core access panel
19. P-trap
20. ERV/HRV air filter
21. Electric heating coil



## Dimensional Data: 2 Pipe Fan Coil

Model	A	B	H	Filter Size
350	20"	20"	82"	24" x 20" x 1"
450	20"	20"	82"	24" x 20" x 1"
650	20"	20"	82"	24" x 20" x 1"
800	20"	20"	82"	24" x 20" x 1"
1000	20"	20"	82"	24" x 20" x 1"
1200	20"	20"	82"	24" x 20" x 1"

## AIR VOLUME

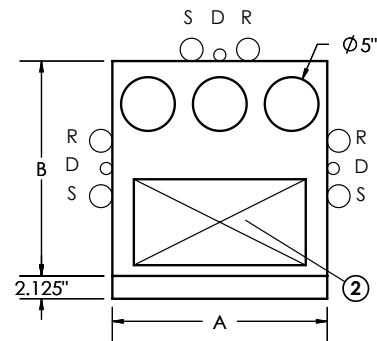
FAN COIL: 350-1200 CFM @ 0.5 ESP

ERV: 50-120 CFM UP TO 1.0 ESP

## THERMAL PERFORMANCE

FAN COIL: NORMAL ¾ TO 3-TON COOLING

NORMAL: 15 MBH TO 84 MBH HEATING

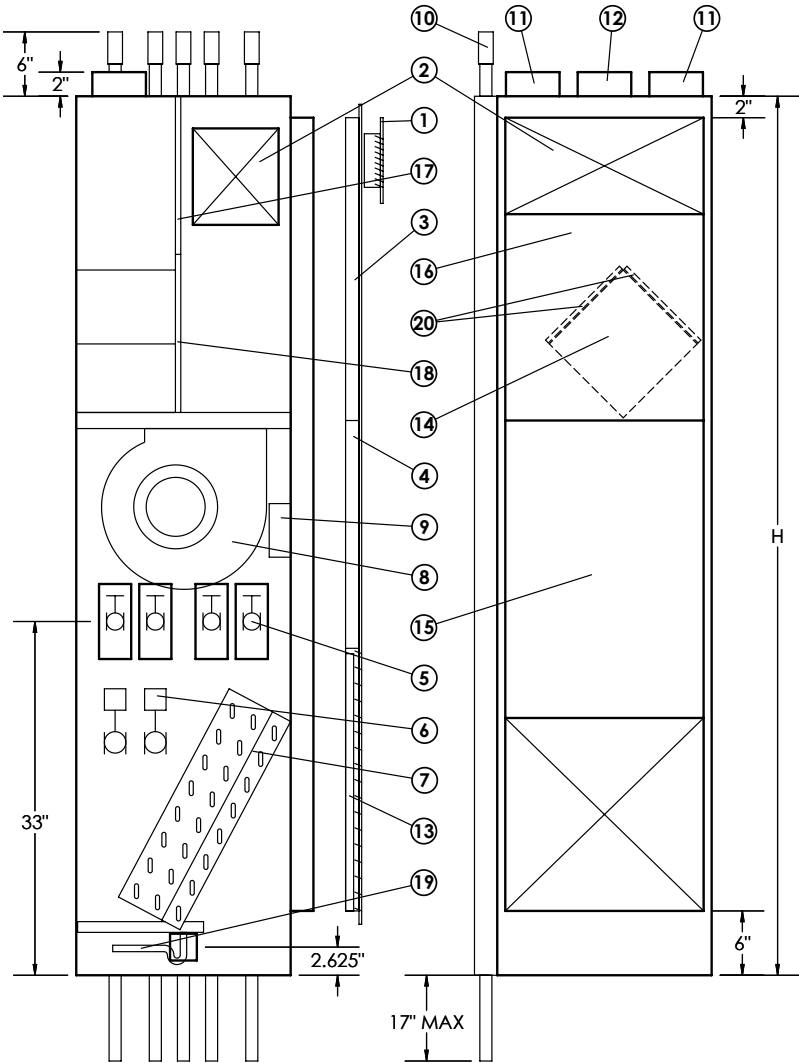
ERV: ENTHALPIC CORE 85% COOLING,  
75% SENSIBLE HEATING

Top view of 2 Pipe

VF4: 4 PIPE

CHILLED AND HOT WATER WITH  
INTERGRATED HEAT OR ENERGY RECOVERY

- 1. Supply air grille
- 2. Optional side, front, or top opening
- 3. Upper access panel
- 4. Lower access panel
- 5. Supply & return shut off valve
- 6. Cooling/heating actuator
- 7. Combined chilled & hot water coil
- 8. Fan motor
- 9. Electrical box
- 10. Swaged riser connection
- 11. Exhaust air intake/discharge
- 12. Fresh air intake
- 13. Return air filter
- 14. Removable ERV/HRV core
- 15. Inner lower access panel
- 16. Inner upper access panel
- 17. Motor access panel
- 18. ERV/HRV core access panel
- 19. P-trap
- 20. ERV/HRV air filter



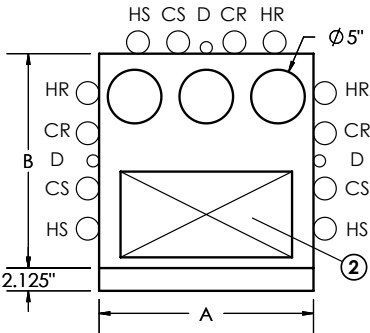
Dimensional Data: 4 Pipe Fan Coil				
Model	A	B	H	Filter Size
350	20"	20"	82"	24" x 20" x 1"
450	20"	20"	82"	24" x 20" x 1"
650	20"	20"	82"	24" x 20" x 1"
800	20"	20"	82"	24" x 20" x 1"
1000	20"	20"	82"	24" x 20" x 1"
1200	20"	20"	82"	24" x 20" x 1"

AIR VOLUME

FAN COIL: 350-1200 CFM @ 0.5 ESP  
ERV: 50-120 CFM UP TO 1.0 ESP

THERMAL PERFORMANCE

FAN COIL: NORMAL ¾ TO 3-TON COOLING  
NORMAL: 15 MBH TO 84 MBH HEATING  
ERV: ENTHALPIC CORE 85% COOLING,  
75% SENSIBLE HEATING



Top view of 4 Pipe

## STANDARD

### CONSTRUCTION

- Manufactured from 18 ga. galvanized or satin coat steel
- Casing with 1/2" thermal acoustical black mat coated fiberglass insulation
- Casing height at 84"
- Fully insulated with 1/2" EPDM elastomeric closed cell insulation

### COILS

- Coils are 1/2" OD copper tubes with mechanically bonded aluminum fins
- 12 fins per inch
- Manual air vents
- Coils are tested at 400 PSI from manufacturer
- 4 row chilled or hot water
- Rated in accordance with AHRI Standard 410
- 1/2" stainless braided hose with 1/2" thick pipe insulation are serpentine to allow for expansion and contraction of the risers with ball valves to isolate the coil
- Up to 1.5 kw single stage nickel-chrome open wire electric heating element with auto-reset high limit

### DRAIN PANS

- Manufactured from 18 ga. galvanized steel
- Corrosion resistant powder coat finish on the collection side of pan
- 1/2" thermal acoustical black mat coated fiberglass liner below pan
- 1/2" drain connection to riser
- Located under water coil

### RETURN AIR ACCESS PANEL

- Manufactured in satin coat steel and finished with powder coated paint in a designer white
- 20 ga. access panel with removable door
- 14" x 48" and 16" x 48" panel sizes
- 1" disposable polyester filter

### ELECTRICAL

- CSA approved control arrangements
- 120 volt (60 Hz) power supply
- 24 volt controls with remote mounted thermostat with a digital display touch screen, 7 days programs, 3-speed fan switch, fan on/ auto switch
- 120 volt with unit mounted thermostat
- 15 amp disconnect switch
- Low voltage electric control valves are available for either 2-way (on-off), or 3-way (diverting) operation
- Units complete with a disconnect switch in compliance with the electrical load
- A circuit control board used to control fan motors, fan speed, flow valve and electric heater, connected to multiple sensors: aquastat/ float/freeze/flood
- Commute through RS485 protocol and BACnet compatible

### FAN ASSEMBLIES

- Forward curve centrifugal fan with painted steel housing and galvanized steel wheel
- 3 speed PSC motor with built in thermal overload protection and torsion flex mounted
- Easily removable fan / motor housing
- Electronically commuted (EC) with built in overload protection is torsion-flex mounted to a steel fan housing

### SUPPLY AIR GRILLE

- Steel fabricated with airfoil louvers and appliance white baked enamel finish
- Double deflection with adjustable louver blades and friction fit

### RISERS

- Type L, M or DWV copper
- 107" long risers
- 3" swaged end connections
- ¾" to 3" pipe diameters
- Supply and return risers insulated with 1" fiberglass and factory mounted

## ERV/HRV MODULE

- AHRI 1060 Certified plate heat exchange core
- 2 EC Constant Airflow fans
- Motors complete with 2-speeds, continuously low speed between 50 cfm - 75 cfm, and high speed between 75 cfm – 120 cfm on bathroom timer. ESP up to 1.0"
- Bathroom timer, base at 20-40-60 minutes
- Cross flow Polymeric HRV core and ERV core
- 2 washable air filters with frame, exhaust side and intake side
- Optional MERV 8 air filter available upon to request
- Defrost control to keep core free-defrost/free condensate
- FROST PROTECTION system to prevent coil freeze issue in case of mal function
- 5" plastic duct connections on top of unit for Fresh-In/Exhaust-In/Exhaust-Out
- Bottom drain pan with 2 piece 3/8" OD drain connection

## OPTIONS

### CONSTRUCTION

- Casing available with smaller footprint and height
- DFA option includes fresh air inlet from remote HRV unit

### COILS

- 14 fins per inch
- Auto air vents
- 3 row chilled water
- 1 or 2 rows hot water

### DRAIN PANS

- Manufactured from 18 ga. stainless steel or stainless steel
- 7/8" drain connection
- Condensate overflow switch

### RETURN AIR ACCESS PANEL

- Custom frame and door sizes
- Tamper proof screws
- 2" high efficiency pleated filter
- Custom colours

### FILTERS

- 1" thick polyester or fibreglass filter, available in MERV 8 to MERV 11

### ELECTRICAL

- CSA Special Inspections for alternate control arrangements
- 24 volt 7 day programmable thermostat
- 20 amp disconnect switch
- Provisions for energy metering device
- Electric heating coil: 0.75, 1.0 and 1.5 kw

### FAN ASSEMBLIES

- Four speed PSC motor with constant ultra-low fan speed
- High efficiency 3 speed ECM motor
- High efficiency 4 speed ECM motor with constant ultra-low fan speed

### SUPPLY AIR GRILLE

- Sight and sound baffles
- Opposed blade dampers
- Custom sizes
- Custom colours

### RISERS

- Max 121" risers
- Riser extensions
- Riser package shipped separately from unit
- Factory mounted expansion loop assembly



### Technical Features:

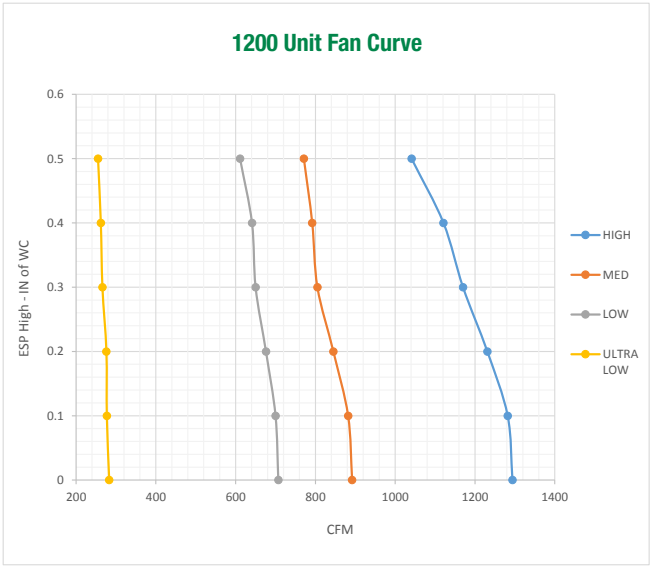
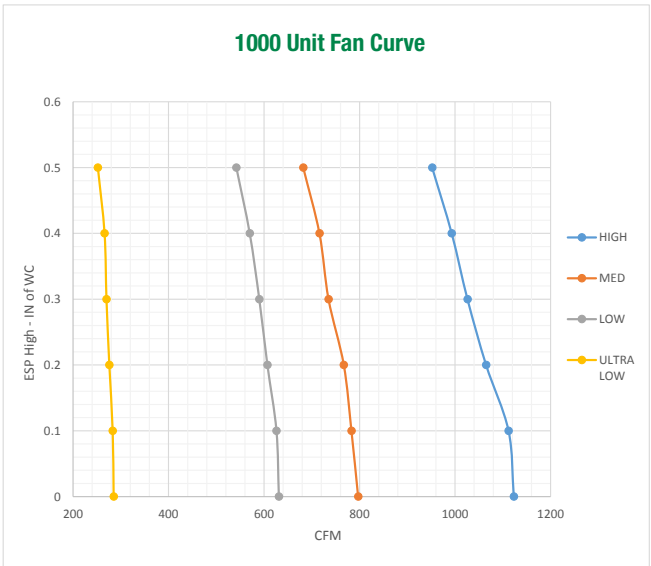
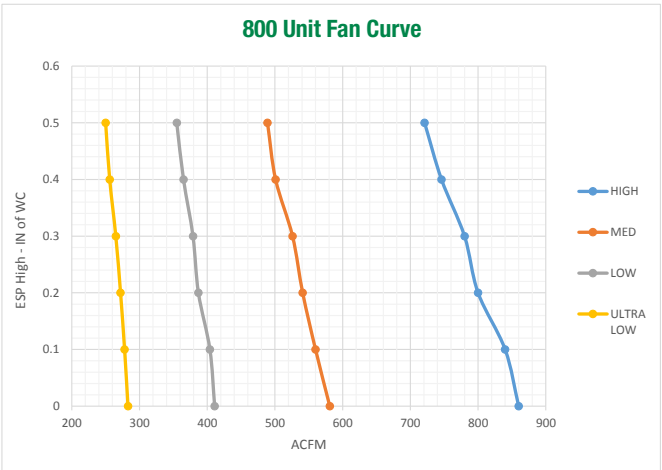
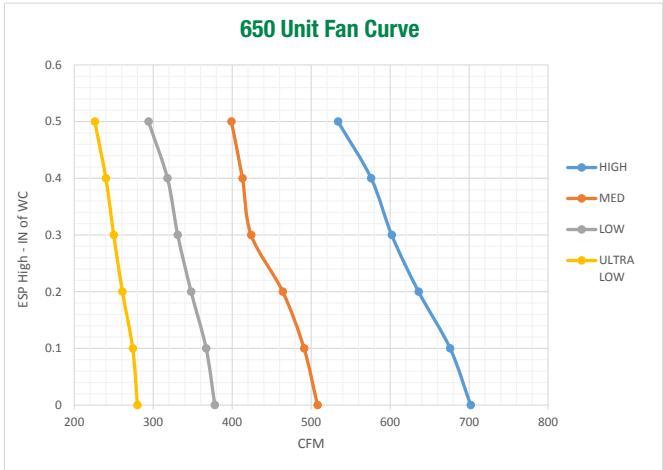
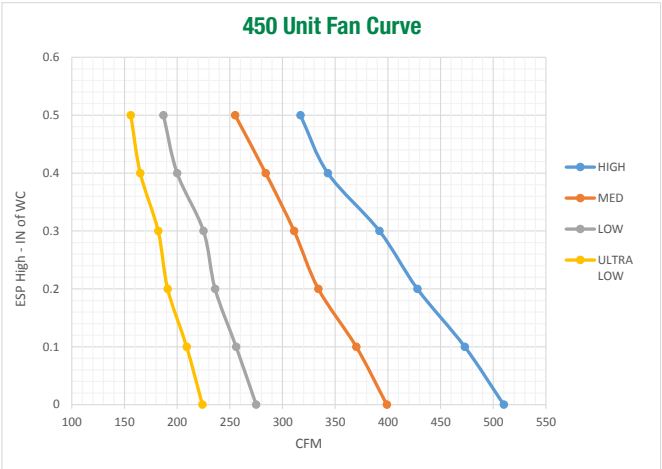
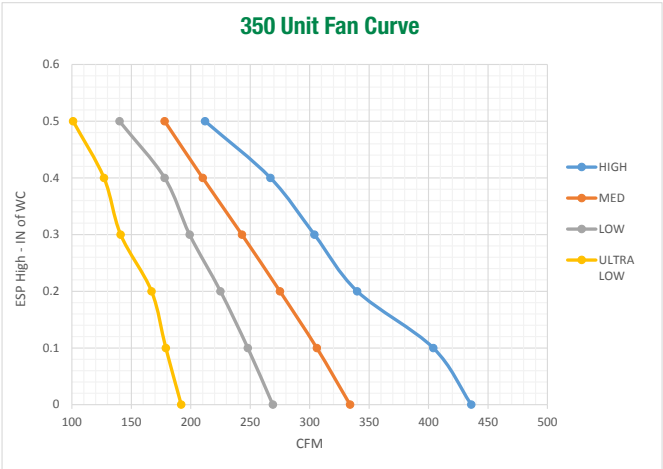
- Molded Duct Collars
- Backward-Inclined Impellers
- Enthalpic Membrane Core
- Highly Efficient EC Blower Motors
- Water-to-Air Coil for Heating and Cooling

### Advantages of compartmentalized, In-suite mechanical ventilation

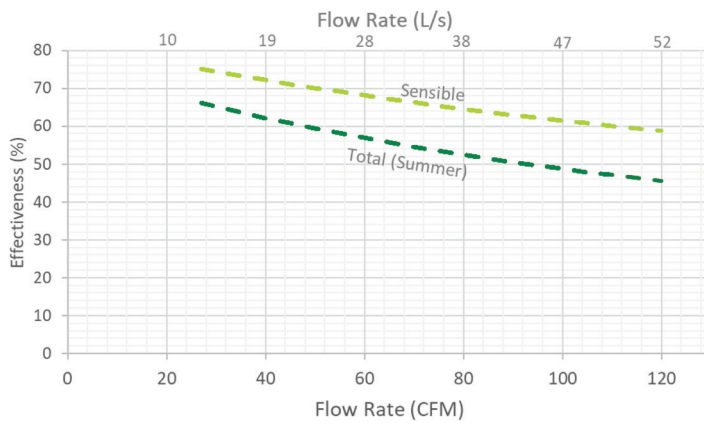
- Lower initial cost compared to central systems
- Reduces required capacity of corridor pressurization systems
- Less air leakage across the building envelope
- Regulated airflow that counteracts stack effect
- Better IAQ in each suite
- Reduced heating and cooling costs\*  
\*amount depends on climate conditions where the building is located
- Better occupant control
- Meets demand control ventilation requirements



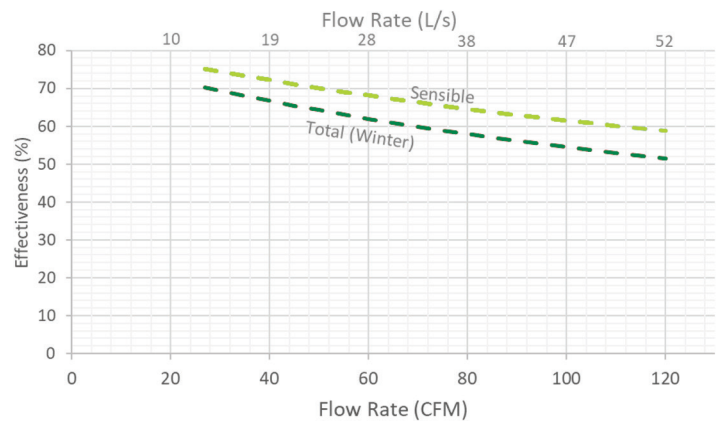
AIRFLOW DETAILS



## EXCHANGER EFFICIENCY

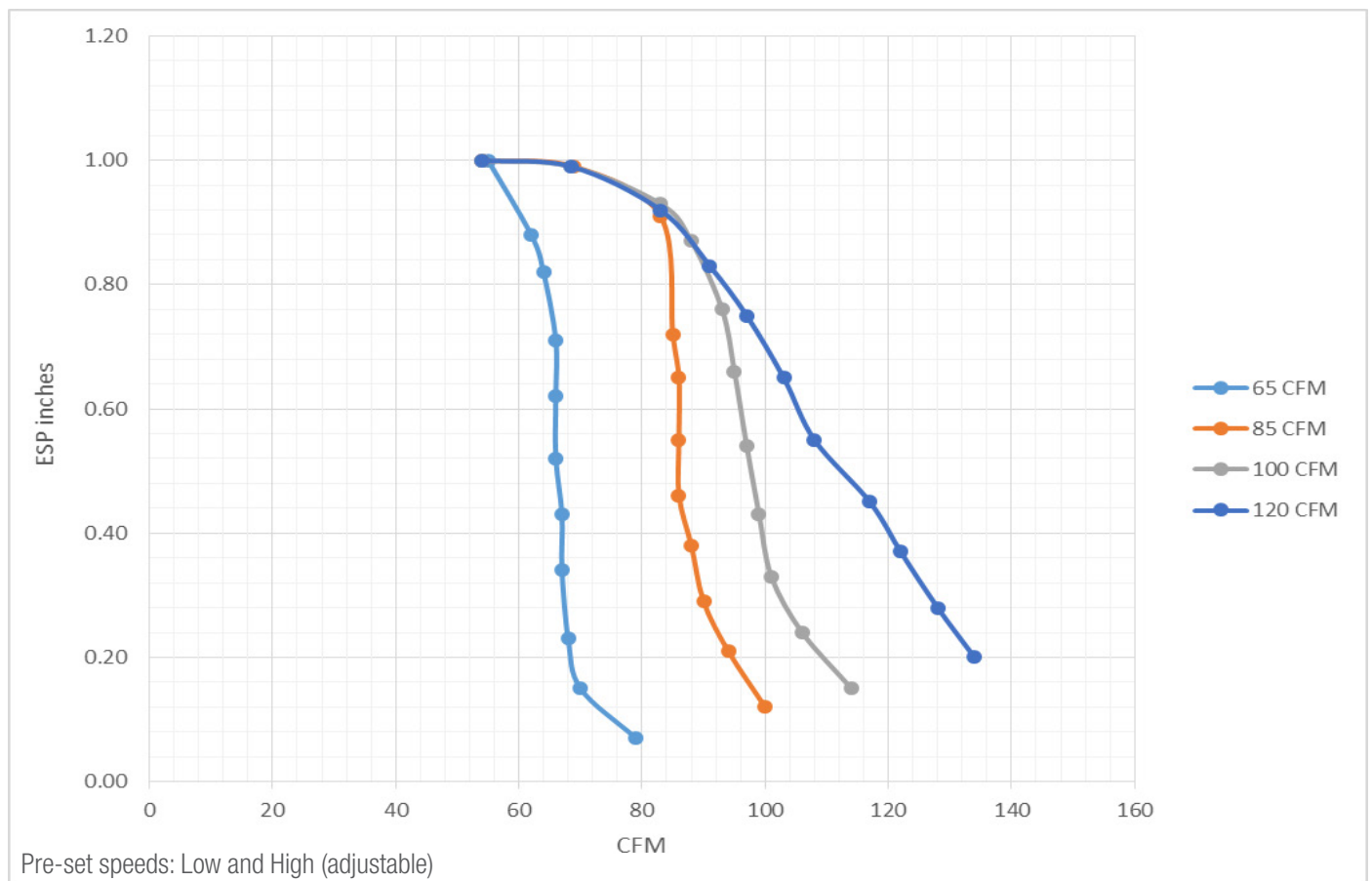


EMC-250-236-260-00-S (SUMMER)  
ERV PERFORMANCE

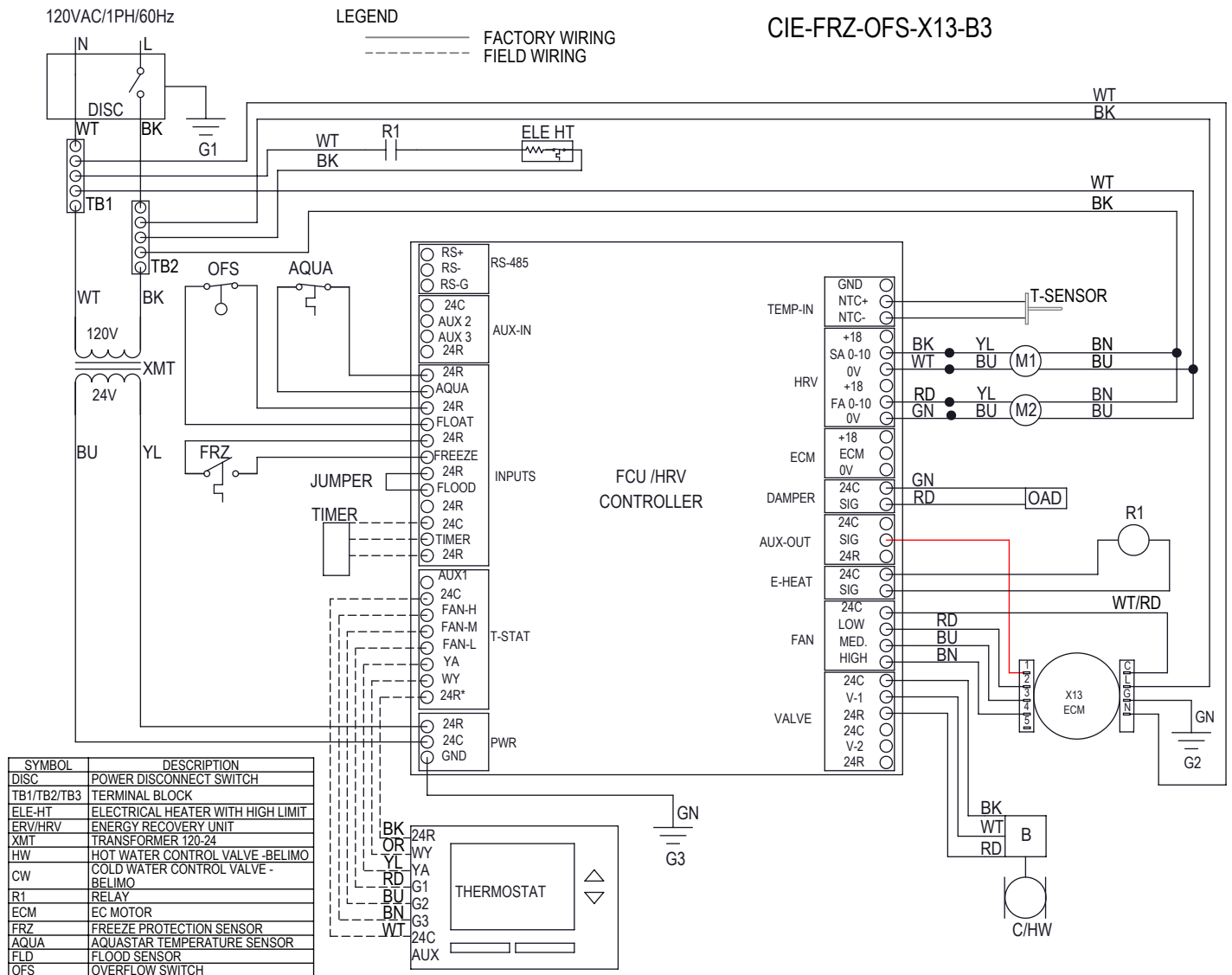


EMC-250-236-260-00-S (WINTER)  
ERV PERFORMANCE

## INTERGAL THERMAL RECOVERY FAN CURVES



## ELECTRICAL CONFIGURATIONS





For more information, contact your Aldes sales advisor,  
visit [aldes-na.com](http://aldes-na.com), call 1.800.255.7749, or find us on

