

Alpha Aire

Dedicated Outdoor Air System, VAV, Air-Source Heat Pump with Energy Recovery

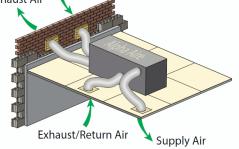
Engineering Guide

Effective September 2017











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PRODUCT FEATURES

United CoolAir uses high-density **2" thermal/acoustic insulation Solid Double Wall** along with low airflow to greatly reduce noise for near occupant operation. Critical components are isolated out of the air stream for longer life. Single point electrical power

and 8" flex duct make for a low cost installation. The sheet metal is G90 galvanized steel with optional wet paint finish for durability and long life.

- · Single Cabinet Design
- 2" Solid Double Wall
- Variable Air Volume Capable (Through BMS)
- Up to 1" of ESP
- · Air Source Heat Pump
- ECM Fans
- BMS Capable
- · Auxiliary Reheat Coil
- · Stainless Steel Drain Pan
- 2" MERV 8 Pleated Throwaway Filters

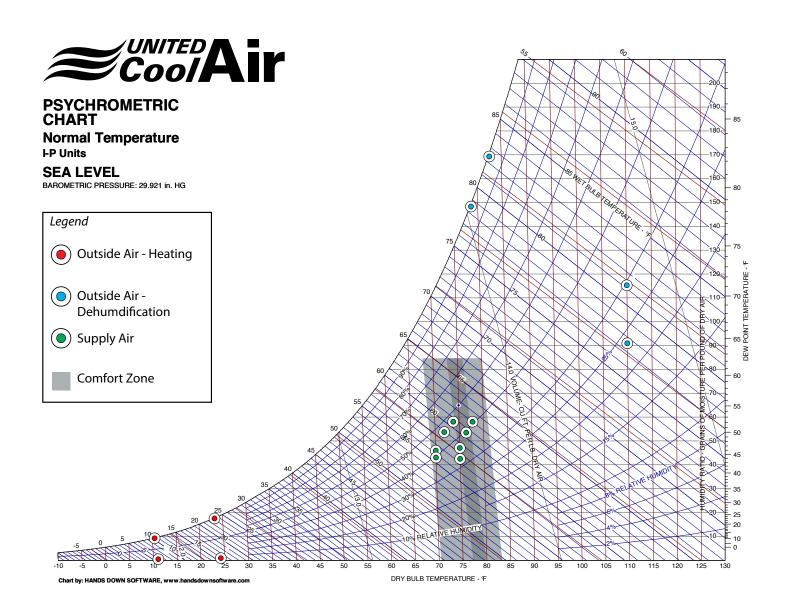
- Dual Energy Recovery Devices
- Field Convertible Supply and Exhaust/Return Ducts
- Filter Drier (Suction Line)
- · Isolated Electrical/Control Box
- 8" Duct Collar Connections
- Built In Pressure Transducers for Airflow Measurement
- · Quick Compressor Change Out
- No brazing or Hot Work permit required for compressor changeout
- 100-500 CFM

OPTIONS

- · Painted Cabinet (Wet paint)
- · Non-Fused Disconnect
- · Coated Coils
- · Buck Boost Transformer
- External Condensate Pump
- Multiple 2"/4" MERV 8,11 or 13 filters

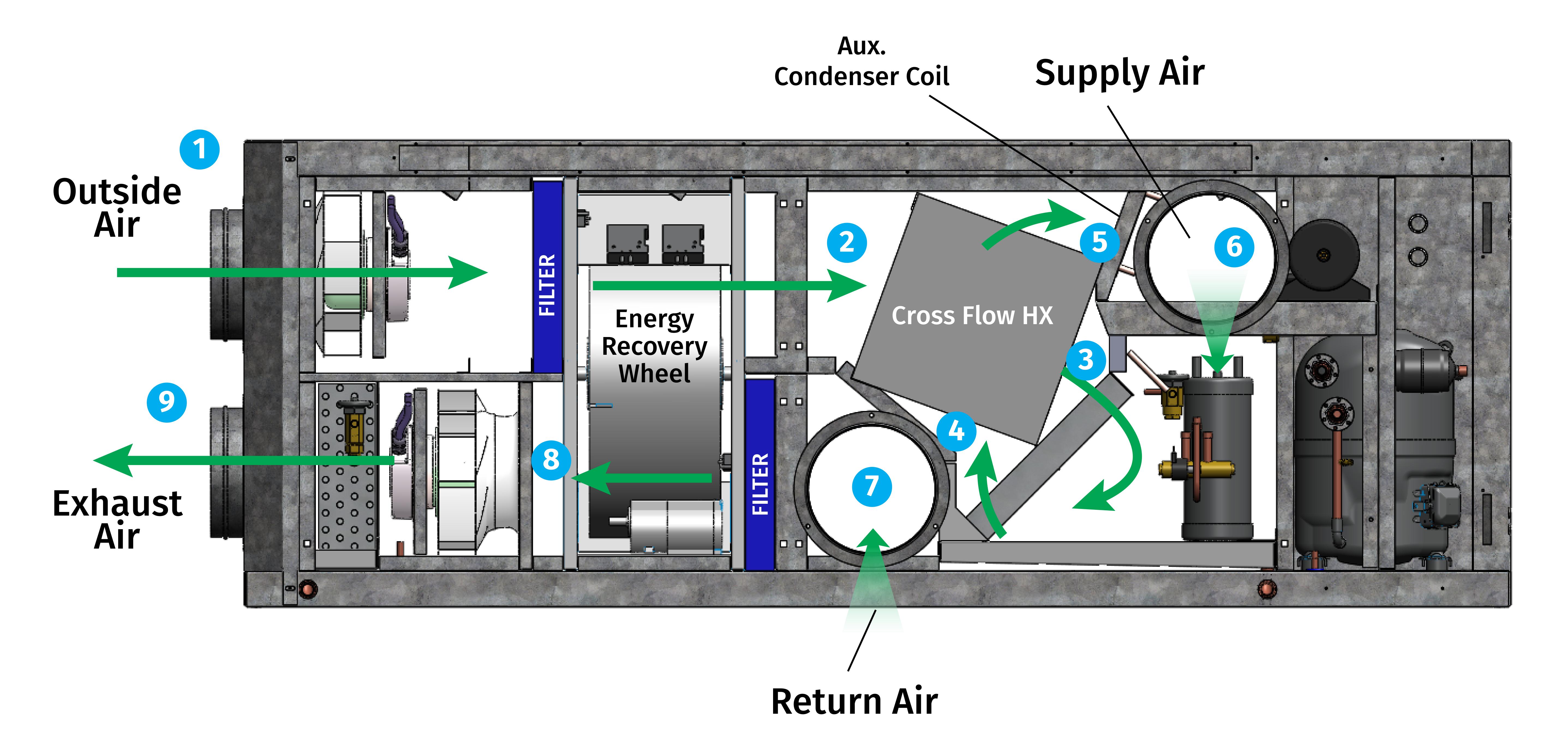
- CO₂ Switch
- · VOC Switch
- Occupancy Switch
- Compressor Acoustic Cover
- · Smoke Detector
- Floor Stand











Outside / Supply Air - 500 CFM

		2	3		5	6
COOLING DB/WB	95/78	79.5/67.1	62.7/61.0	50.2/50.2	68.8/57.8	74.5/60
HEATING DB/WB	16/12.0	57.9/50.8	NA	NA	NA	71.9/56.6

Return / Exhaust Air - 500 CFM

	8	
75.0/62.5	90.4/74.6	123.0/82.6
70.0/58.5	28.0/25.7	20.0/20.0

PROPRIETARY CONFIDENTIAL—NO PHOTOS

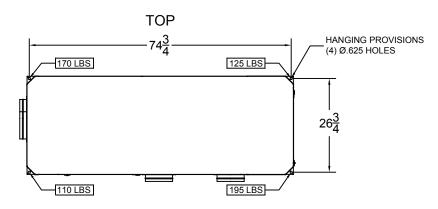


Physical Data - Alpha Aire

Evaporator Supply Air	CFM Range	100-500
Evaporator Fans	Туре	ECM
	Qty	2
COIL MATERIALS:		Aluminum Fins / Copper Tubes
Indoor Coil Rows / FPI		6 / 13
Indoor Coil Face Area	Ft2	1.0
Outdoor Coil Rows / FPI		4 / 18
Outdoor Coil Face Area	Ft2	1.0
Reheat Coil Rows / FPI		1 / 13
Reheat Coil Face Area	Ft2	0.85
Wheel Type		Enthalpy
Wheel Diameter	In	19.7
Plate Type		Sensible
ELECTRICAL DATA:		
Motor Power / FLA	kW / Amps	0.4 / 2.3
Motor Qty		2
Compressor Qty / Type		1 / Recip.
Compressor LRA / RLA	Amps / Amps	45 / 4.5
Unit MCA	Amps	10.2
Unit MOP	Amps	15
AIR FILTERS:		
Туре	Pleated Throwaway	
Qty / Size	2 / 12 x 24 x 2	
Efficiency	MERV 8	
Weight (Net Operating)	600 lbs*	

^{*}Approximate net operating weight of standard unit, additional options may change overall weight

Corner Weights



note, there is a closet (vertical model) with similiar footprint coming very soon, 75" tall, ~28x28



Alpha Aire Performance Data

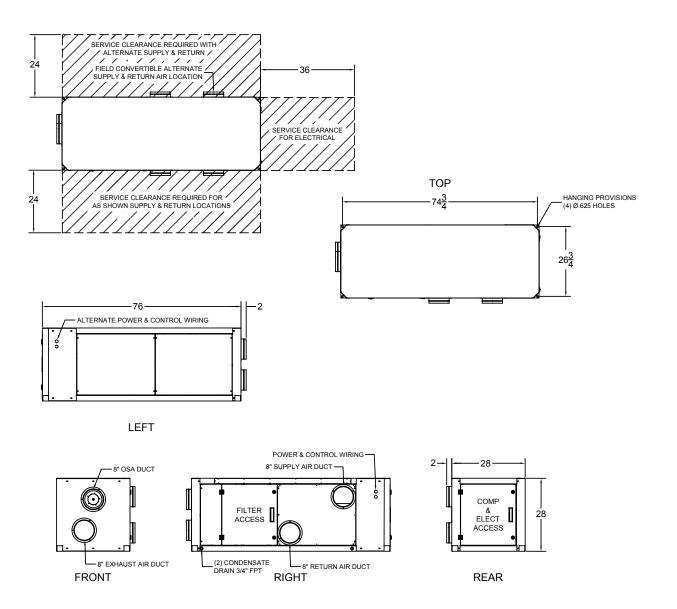
Typical Design Conditions

DEHUMIDIFICATION		
Outside Air / Return Air CFM	SCFM	500 / 500
Outside Air Temp. DB / WB / RH / DP	°F/°F/%/°F	95.0 / 80.0 / 52.5 / 74.9
Return Air Temp. DB / WB / RH / DP	°F/°F/%/°F	75.0 / 62.5 / 49.8 / 55.0
Supply Air Temp. DB / WB / RH / DP	°F/°F/%/°F	75.2 / 60.7 / 43.0 / 51.2
Total Cooling Capacity (less motor heat)	BTUH	37,400
Sensible Cooling Capacity (less motor heat)	BTUH	10,700
HEATING		
Outside Air / Return Air CFM	SCFM	500 / 500
Outside Air Temp. DB / WB / RH / DP	°F/°F/%/°F	10.0 / 9.0 / 80.1 / 5.6
Return Air Temp. DB / WB / RH / DP	°F/°F/%/°F	70.0 / 58.5 / 50.2 / 50.6
Supply Air Temp. DB / WB / RH / DP	°F/°F/%/°F	69.8 / 56.1 / 41.8 / 45.5
Total Heating Capacity (less motor heat)	BTUH	45,600
Sensible Heating Capacity (less motor heat)	BTUH	32,300

DEHUMIDIFICATION		
Outside Air / Return Air CFM	SCFM	500 / 500
Outside Air Temp. DB / WB / RH / DP	°F/°F/%/°F	95.0 / 78.0 / 47.3 / 71.8
Return Air Temp. DB / WB / RH / DP	°F/°F/%/°F	75.0 / 62.5 / 49.8 / 55.0
Supply Air Temp. DB / WB / RH / DP	°F/°F/%/°F	74.5 / 60.0 / 42.4 / 50.2
Total Cooling Capacity (less motor heat)	BTUH	33,700
Sensible Cooling Capacity (less motor heat)	BTUH	11,100
HEATING		
Outside Air / Return Air CFM	SCFM	500 / 500
Outside Air Temp. DB / WB / RH / DP	°F/°F/%/°F	16.0 / 12.0 / 37.5 / -3.3
Return Air Temp. DB / WB / RH / DP	°F/°F/%/°F	70.0 / 58.5 / 50.2 / 50.6
Supply Air Temp. DB / WB / RH / DP	°F/°F/%/°F	71.9 / 56.6 / 37.6 / 44.7
Total Heating Capacity (less motor heat)	BTUH	44,000
Sensible Heating Capacity (less motor heat)	BTUH	30,200



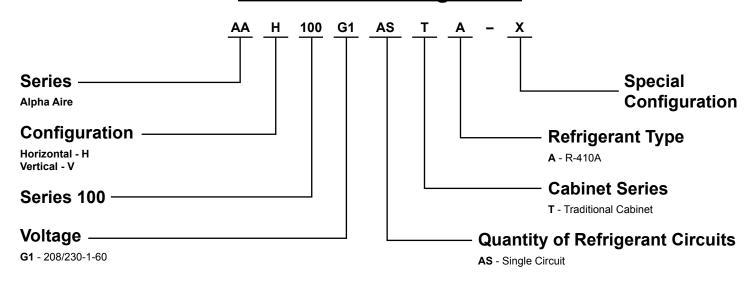
Alpha Aire Drawing

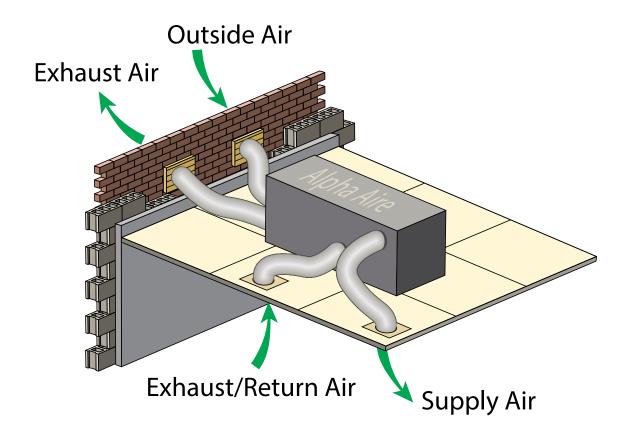


NOTES: UNIT MUST BE DROPPED TO REPLACE FANS, ERW & HEAT PLATE



Alpha Aire Basic Model Designation







Unique Solutions for All-Indoor HVAC Projects







VertiCool Aurora Vertical, 3 - 35 Tons



VariCool® VAV, 9 - 70 Tons



VariCool® EZ-Fit VAV, 12 - 90 Tons



Alpha Aire 100 – 500 CFM



Portable Cooling and Heating Units 3-30 Tons



C13-Series Horizontal 2 - 10 Tons



1 - 15 Tons Special Configuration Engineered to Order

C-Series Horizontal



OmegaAir Horizontal and Vertical 100% Outside Air 150 – 3000 CFM

Authorized Distributor:

LIMITED WARRANTY

United CoolAir Units are backed by a 1 year limited warranty on parts and a 5 year limited warranty on the compressor (labor not included). Maintenance items such as filters and belts are excluded under this limited warranty.

FACTORY TESTED

All units are functionally run tested before shipment to ensure a trouble-free start-up and unit commissioning. Industry proven components are used throughout to enhance system reliability and peace of mind.



Scan to learn more about all of our products!



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