

AIO Vertical Stack



AIO Vertical Stack is the ideal multi-room solution when a ceiling-mounted unit is not desired or feasible. The compact 12-inch by 25-inch (305 mm by 635 mm) footprint uses minimal floor space. This unit is perfect anywhere direct venting or ducting is required with up to 0.6" WC (149 Pa) external static pressure. Use any style grilles and louvers for maximum design flexibility.

A unique feature of the AIO Vertical Stack unit is that it can be installed on a corridor wall, enabling it to be fully serviced without entering the apartment or hotel room. A bathroom exhaust can connect to the dedicated stale air exhaust - which can be field modified to left or right. The Vertical Stack unit is available with or without the integrated ERV and can be vented directly outside or through ductwork. Watch how it is installed by scanning or clicking the QR code.



Key Features

- Compact unit
- Easy to install
- High ESP for internal and external ducting
- Extraordinarily flexible ducting
- Bathroom exhaust connection
- Auto-restart
- Washable filters
- Preheater for extreme cold climates

Options

- Optional 0.9 or 1.8 kW electric heat
- With or without ERV
- 115V or 230V
- Hardwire or LCDI cord
- R32
- MERV 13 filtration on return air

Operation

- Cool, heat, dehumidify, and auto
- Selectable fan speeds, low, med, high, and auto
- Fresh air ERV - field configurable amount of fresh air

Mounting

- Vertical

Airflow

- Dual 8" (203 mm) external vents
- Available 0.7" WC (174 Pa) for external ducting, adapters, and louvers
- Available 0.6" WC (149 Pa) for internal ducting and louvers

Included Controllers

- Onboard touch controller for diagnostics

Optional Controllers

- WiFi app for Android and iPhone
- Wall Mounted Advanced touchscreen with a 7-day program
- Wall Mounted Basic touch controller
- Third-party thermostat interface
- BACnet/Modbus interface

No Access Required

The versatile design of AIO makes the system extremely reliable and inexpensive to maintain.

If a repair is needed, a single unit can be taken off-line without affecting the entire system. It's possible to install AIO Vertical stack on the corridor wall of each apartment/hotel room so that all maintenance can be achieved from a common area - at any time, which means no maintenance personnel needs to enter the unit.



Key Specifications

High Performance & High Efficiency



			AHRI			Energy Star Certified		
			95°F (35°C) ¹	105°F (41°C) ²	115°F (46°C) ³	95°F (35°C) ¹	105°F (41°C) ²	115°F (46°C) ³
Cooling - Heat Pump Only								
Capacity	Maximum		14.4 (4.2)	13.1 (3.8)	11.8 (3.5)	14.4 (4.2)	13.1 (3.8)	11.8 (3.5)
	Recommended*	kBtu/h (kW)	9.8 (2.9)	8.5 (2.5)	7.8 (2.3)	9.8 (2.9)	8.5 (2.5)	7.8 (2.3)
	Nominal		8.9 (2.6)	7.6 (2.2)	6.9 (2.0)	7.5 (2.2)	7.6 (2.2)	6.9 (2.0)
	Minimum		3.6 (1.1)	3.6 (1.1)	3.4 (1.0)	3.6 (1.1)	3.6 (1.1)	3.4 (1.0)
Power input	Maximum		1.75	1.68	1.75	1.75	1.68	1.75
	Recommended*	kW	0.96	0.97	1.06	0.96	0.97	1.06
	Nominal		0.81	0.85	0.93	0.65	0.85	0.93
	Minimum		0.25	0.28	0.30	0.25	0.28	0.30
Efficiency	Maximum		8.23	7.8	6.74	8.23	7.8	6.74
	Recommended		10.27	8.8	7.4	10.27	8.8	7.4
	Nominal		11.01	9.0	7.47	11.6	9.0	7.47
	SEER2		14.35	-	-	15.35	-	-
Moisture removal		Pts/h (L/h)	1.8 (0.9)	2 (1.0)	2.2 (1.0)	1.8 (0.9)	2 (1.0)	2.2 (1.0)

			AHRI					Energy Star Certified				
			47°F (8°C) ⁴	17°F (-8°C) ⁵	5°F (-15°C) ⁶	0°F (-17°C) ⁷	-5°F (-20°C) ⁸	47°F (8°C) ⁴	17°F (-8°C) ⁵	5°F (-15°C) ⁶	0°F (-17°C) ⁷	-5°F (-20°C) ⁸
Heating - Heat Pump Only**												
Capacity	Maximum		13.8 (4.0)	9.4 (2.8)	6.7 (2.0)	6.4 (1.9)	6.0 (1.8)	13.8 (4.0)	9.4 (2.8)	6.7 (2.0)	6.4 (1.9)	6.0 (1.8)
	Recommended*	kBtu/h (kW)	10.0 (2.9)	9.0 (2.6)	6.5 (1.9)	6.1 (1.8)	5.8 (1.7)	10.0 (2.9)	9.0 (2.6)	6.5 (1.9)	6.1 (1.8)	5.8 (1.7)
	Nominal		8.9 (2.6)	9.0 (2.6)	6.5 (1.9)	6.1 (1.8)	5.8 (1.7)	8.2 (2.4)	8.9 (2.6)	6.4 (1.9)	6.1 (1.8)	5.8 (1.7)
	Minimum		3.9 (1.1)	3.3 (1.0)	2.8 (0.8)	2.7 (0.8)	2.7 (0.8)	3.9 (1.1)	3.3 (1.0)	2.8 (0.8)	2.7 (0.8)	2.7 (0.8)
Power input	Maximum		1.75	1.75	1.75	1.65	1.45	1.75	1.75	1.75	1.65	1.45
	Recommended*	kW	0.82	1.15	1.11	1.08	1.04	0.82	1.15	1.11	1.08	1.04
	Nominal		0.71	1.15	1.11	1.08	1.04	0.66	1.13	1.07	1.08	1.04
	Minimum		0.42	0.44	0.46	0.48	0.50	0.42	0.44	0.46	0.48	0.50
Efficiency	Maximum		2.31	1.57	1.12	1.14	1.21	2.31	1.57	1.12	1.14	1.21
	Recommended		3.6	2.3	1.72	1.67	1.64	3.6	2.3	1.72	1.67	1.64
	Nominal		3.7	2.30	1.72	1.67	1.64	3.7	2.30	1.75	1.67	1.64
	Minimum		2.72	2.2	1.78	1.65	1.58	2.72	2.2	1.78	1.65	1.58
	HSPF2		9.8	-	-	-	-	9.8	-	-	-	-

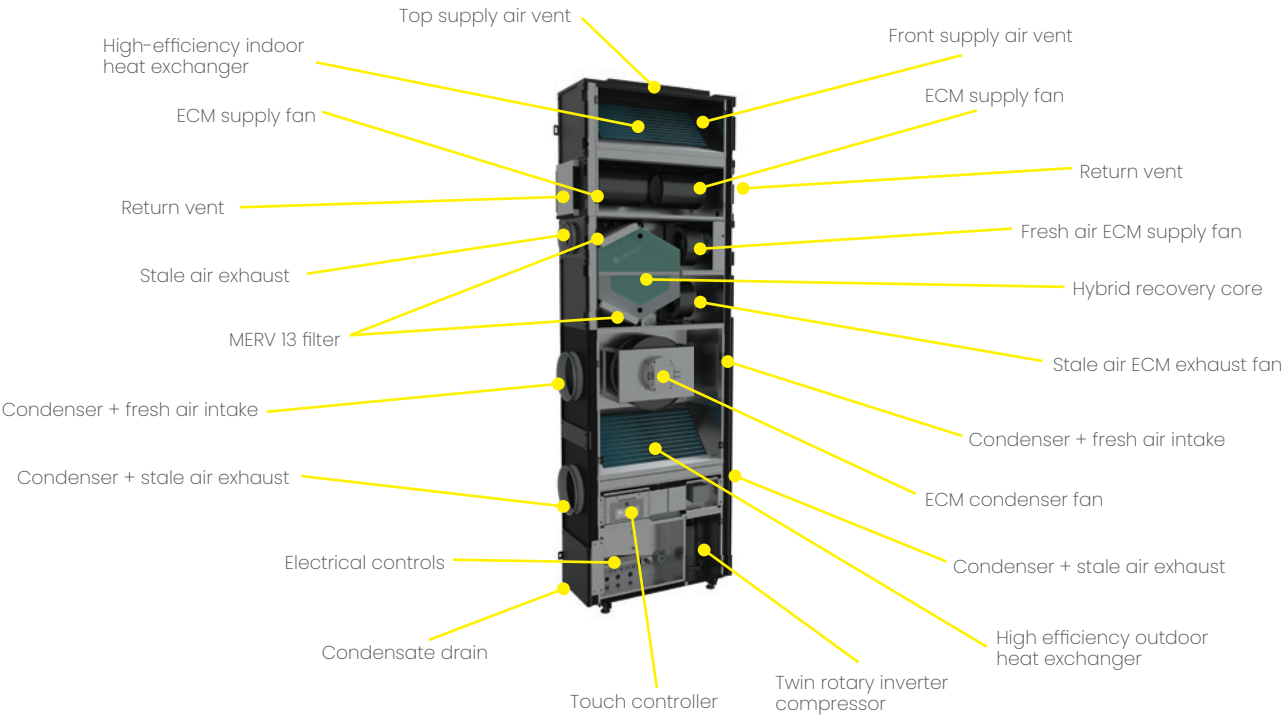
- 1 **95°F (35°C)** ID: 80°F(26.7°C), W.B. 67°F(19.4°C); OD: 95°F(35°C), W.B. 75°F(23.9°C)
 2 **105°F (41°C)** ID: 80°F(26.7°C), W.B. 67°F(19.4°C); OD: 105°F(40.6°C), W.B. 75°F(23.9°C)
 3 **115°F (46°C)** ID: 80°F(26.7°C), W.B. 67°F(19.4°C); OD: 115°F(46.1°C), W.B. 75°F(23.9°C)
 4 **47°F (8°C)** ID: 70°F(21.1°C), W.B. 60°F(15.6°C); OD: 47°F(8.3°C), W.B. 43°F(6.1°C)

- 5 **17°F (-8°C)** ID: 70°F(21.1°C), W.B. 60°F(15.6°C); OD: 17°F(-8.3°C), W.B. 13°F(-10.6°C)
 6 **5°F (-15°C)** ID: 70°F(21.1°C), W.B. 60°F(15.6°C); OD: 5°F(-15°C), W.B. 3°F(-16.1°C)
 7 **0°F (-17°C)** ID: 70°F(21.1°C), W.B. 60°F(15.6°C); OD: 0°F(-17.8°C)
 8 **-5°F (-20°C)** ID: 70°F(21.1°C), W.B. 60°F(15.6°C); OD: -5°F(-20.6°C)

* This is the recommended capacity for sizing the unit to the space.

** The tables show Heat Pump performance only. An electric heating element can be added to provide an additional output of 3.1 or 6.1 kBtu/h (0.9 or 1.8 kW).

What's Inside

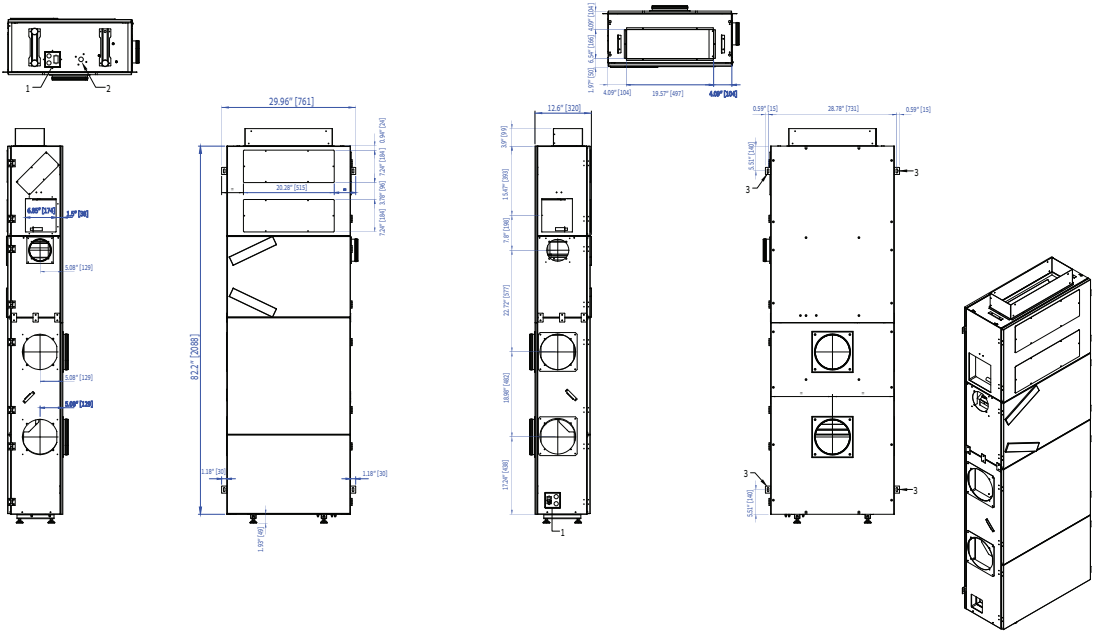


Dimensions

For CAD and DWG files, please scan or click the QR code below.



- 1- POWER SUPPLY (optional)
- 2- CONDENSATE DRAIN (Ø0.75" (19)
- 3- HOLE FOR ANCHORS



Technical Specifications

Airflow				
Indoor	Type	ECM centrifugal		
	CFM (m³/h)	226 - 400 (384 - 680)		
	Fan Modes	Low, med, high, boost, auto		
	Available ESP	N/A		
	Supply connection	Integrated front		
	Return connection	Integrated bottom		
	Filter	MERV 3, Optional MERV 8 / 13		
Outdoor	Type	ECM centrifugal		
	CFM (m³/h)	385 - 638 (654 - 1,084)		
	Available ESP	0.45" WC (112 Pa)		
	Available External Static Pressure	0.7" WC (174 Pa)		
	Intake connection	8" (203 mm) round		
	Exhaust connection	8" (203 mm) round		
	Speeds	Low, med, high, auto		
General				
Indoor	Type	BLDC twin rotary inverter		
	Oil Type	Fv50s		
Controls	Basic Functionality	Dependent on controller		
	WiFi	Optional module available		
	Power Outage Restart	Auto-on based on last setting		
	Dry Contact	Yes		
Modes	Operation	Cool+ fresh air, cool only, heat+ fresh air, heat only, auto		
	Restricted Modes	Heat only, cool only, temperature limiting		
	Timers	Dependent on the controller		
Condensate	Pipe size	3/4" (19 mm) outside diameter		
	Pipe Material	Rubber		
ERV				
Flow type		Counterflow enthalpy exchanger		
Material		Mold and bacteria resistant, washable polymer membrane		
ASHRAE compliance		62.1 and 62.2 when used with the ERV module		
Efficiency of Core in Winter		40 CFM (68 m³/h)	60 CFM (102 m³/h)	80 CFM (140 m³/h)
Sensible	%	86.7	85.2	83.1
Latent		72.5	65.1	60.3
Efficiency of Core in Summer				
Sensible	%	71.1	69.4	68.1
Latent		56.2	54.5	51.2
Filter				
Indoor air	MERV	MERV 3 / optional MERV 13		
Outside air		MERV 13		
Leakage				
Internal	in. WC (Pa)	2.6% at 0.40" (100)	2.4% at 0.40" (100)	2.2% at 0.40" (100)
External		2.8% at 1.0" (249)	2.7% at 1.0" (249)	2.5% at 1.0" (249)

Electical Data: Heat Pump Only*		AHRI		Energy Star Certified	
		115V	230V	115V	230V
Power Supply	Ph/Hz	1/60		1/60	
Power Factor		0.96		0.96	
Input Power – standby	W	10.8		10.8	
Input Power – off mode		1.5		1.5	
Running Amps Cooling		15.9	7.9	15.9	7.9
Max. Amps Cooling		22.0	10.5	22.0	10.5
Running Amps Heating		15.9	7.9	15.9	7.9
Max. Amps Heating	A	22.0	10.5	22.0	10.5
MCA		26	12	26	12
MOCP		35	15	35	15
Rec. Breaker Size		30	15	30	15

* See the Post and Pre Heater table.

Electrical Connection			115V	230V
LCDI Power Cord	Amps	A	N/A	15
	Plug	NEMA	N/A	6-15P
Quick-connect whip	Length	in (mm)	40 (1,016)	40 (1,016)
Electrical (General) – Motors				
Compressor	RLA	A	13	6
	LRA		13	6
Indoor ECM fan motor	Max Watts	W	200	200
	F.L.A.	A	2.4	1.2
	Power	HP	1/10	1/10
Outdoor ECM fan motor	Max Watts	W	320	425
	F.L.A.	A	3	2
	Power	HP	1/8	1/10

	Pre Heater		Post Heater		
	500 W	1,000 W	900 W	1,800 W	2,700 W
115 V	500 W / 7.8 A	N/A	900 W / 7.8 A	N/A	N/A
208 V	N/A	818 W / 3.9 A	736 W / 3.5 A	1,472 W / 7.1 A	2200 W / 10.6 A
230 V	N/A	1,000 W / 4.3 A	900 W / 3.9 A	1,800 W / 7.8 A	2,700 W / 11.7 A
240 V	N/A	1,089 W / 4.5 A	980 W / 3.8 A	1,960 W / 7.5 A	3,000 W / 11.3 A
Sound					

Indoor	DB range: dB(A)	27 – 43
	STC	40
	OITC	35
Outdoor	dB(A)	28 – 55

Unit Dimensions and Mechanical Details		
Dimensions		39.9" W x 21.6" H x 6.9" + 6" fan depth
		1,014 mm W x 547 mm H x 175 mm + 152 mm fan depth
Net weight	lb	100 (45.4)
Gross weight	(kg)	105 (47.6)
Cabinet finish		RAL 9003 signal white
Cabinet material		Steel