AIO Vertical Stack XL

AIO Vertical Stack XL is the higher capacity version of the Vertical Stack and is designed to fit in the same space as a VTAC. The compact 23-inch by 24-inch (584 by 610 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 XL 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 on either the right or left side. The Vertical Stack XL unit is available with or without the integrated ERV and can be vented directly outside or through ductwork.

Key Features

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

Options

- Optional 3.6 kW electric heat
- With or without ERV
- 230V
- Hardwire or LCDI cord
- R32

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

- 22" x 31" (559 x 787 mm) external vent
- Available 0.7" WC (174 Pa) for external ducting, adapters, and louvers
- Available 0.6" WC (149 Pa) for internal ducting and louvers

Included controls

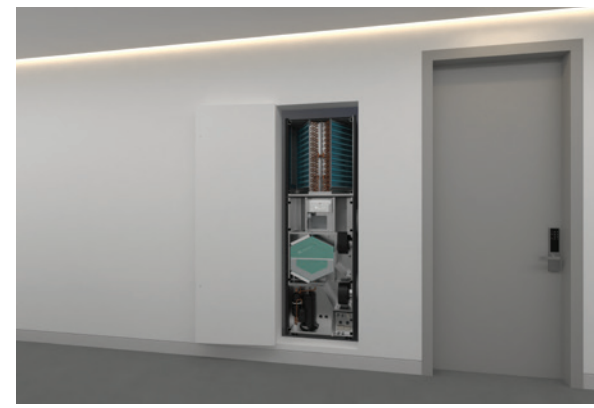
- Onboard touch controller for diagnostics

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 XL 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	kBtu/h (kW)	24.0 (7.0)	22.0 (6.4)	20 (5.9)	24.0 (7.0)	22.0 (6.4)	20 (5.9)
	Recommended*		22.0 (6.4)	20.5 (6.0)	18.5 (5.4)	22.0 (6.4)	20.5 (6.0)	18.5 (5.4)
	Nominal		20.3 (5.9)	18.3 (5.4)	17.5 (5.1)	11.6 (3.4)	18.3 (5.4)	17.5 (5.1)
	Minimum		4.5 (1.3)	4.5 (1.3)	4.5 (1.3)	4.5 (1.3)	4.5 (1.3)	4.5 (1.3)
Power input	Maximum	kW	2.35	2.45	2.52	2.35	2.45	2.52
	Recommended*		2.05	2.25	2.31	1.67	2.25	2.31
	Nominal		1.74	1.96	2.15	0.99	1.96	2.15
	Minimum		0.34	0.36	0.36	0.34	0.36	0.36
Efficiency	Maximum		10.23	8.98	7.94	10.23	8.98	7.94
	Recommended		10.76	9.11	8.01	13.18	9.11	8.01
	Nominal		11.65	9.36	8.15	11.70	9.36	8.15
	SEER2†		13.91	-	-	15.4	-	-
Moisture removal		Pts/h (L/h)	1.9 (0.9)	2.1 (1.0)	2.31 (1.1)	1.9 (0.9)	2.1 (1.0)	2.31 (1.1)

			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	kBtu/h (kW)	24.0 (7.0)	17.5 (5.1)	12.5 (3.7)	9.5 (2.8)	8.2 (2.4)	24.0 (7.0)	17.5 (5.1)	12.5 (3.7)	9.5 (2.8)	8.2 (2.4)
	Recommended*		20.0 (5.9)	11.6 (3.4)	9.3 (2.7)	8.3 (2.4)	7.6 (2.2)	20.0 (5.9)	11.4 (3.3)	9.2 (2.7)	8.3 (2.4)	7.6 (2.2)
	Nominal		17.3 (5.1)	10.4 (3.0)	8.3 (2.4)	7.4 (2.2)	6.8 (2.0)	14.2 (4.2)	10.2 (3.0)	8.2 (2.4)	7.4 (2.2)	6.8 (2.0)
	Minimum		5.0 (1.5)	4.15 (1.2)	3.85 (1.1)	3.85 (1.1)	3.85 (1.1)	5.0 (1.5)	4.15 (1.2)	3.85 (1.1)	3.85 (1.1)	3.85 (1.1)
Power input	Maximum	kW	2.34	2.28	2.21	2.38	2.38	2.34	2.28	2.21	2.38	2.38
	Recommended*		1.80	1.48	1.39	1.40	1.23	1.80	1.45	1.20	1.40	1.23
	Nominal		1.42	1.29	1.21	1.22	1.06	1.16	1.26	1.05	1.22	1.06
	Minimum		0.32	0.35	0.34	0.37	0.40	0.32	0.35	0.34	0.37	0.40
Efficiency	Maximum		3.01	2.25	1.66	1.2	1.0	3.01	2.25	1.66	1.2	1.0
	Recommended		3.3	2.3	1.96	1.74	1.81	3.3	2.3	2.25	1.74	1.81
	Nominal		3.56	2.37	2.01	1.79	1.88	3.59	2.37	2.30	1.79	1.88
	Minimum		4.58	3.53	3.28	3.07	2.8	4.58	3.53	3.28	3.07	2.8
	HSPF2†		9.12	-	-	-	-	9.20	-	-	-	-

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 up to 15.3 kBtu/h (4.5 kW).

†SEER2 does not apply to PTHP-type units and is shown solely to enable comparison with similar heat pump systems. Values are for reference and comparison purposes only.

Technical Specifications

Airflow		
Indoor	Type	ECM centrifugal
	CFM (m³/h)	247 - 740 (420 - 1,257)
	Available ESP	N/A
	Fan Modes	Low, med, high, boost, auto
	Supply connection	Integrated
	Return connection	Integrated bottom
	Filter	MERV 3
Outdoor	Type	ECM centrifugal
	CFM (m³/h)	382 - 1110 (649 - 1,886)
	Available ESP	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		**20 CFM (34 m³/h)**	**30 CFM (51 m³/h)**	**50 CFM (85 m³/h)**
Sensible	%	81.7	78.3	72.8
Latent	%	58.1	55.5	48.5
Efficiency of Core in Summer				
Sensible	%	68.1	64.3	59.1
Latent	%	57.5	53.4	47.3
Filter				
Indoor air	MERV	MERV 3 / optional MERV 13		
Outside air	MERV	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	in. WC (Pa)	2.8% at 1.0" (249)	2.7% at 1.0" (249)	2.5% at 1.0" (249)

AHRI and Energy Star

Electical Data: Heat Pump Only*		115V	230V
Power Supply	Ph/Hz	1/60	
Power Factor		0.96	
Input Power - standby	W	10.8	
Input Power - off mode	W	1.7	
Running Amps Cooling	A	7.6	3.4
Max. Amps Cooling	A	11.2	7.8
Running Amps Heating	A	8.6	3.5
Max. Amps Heating	A	11.2	7.8
MCA	A	14	10
MOCP	A	19	15
Rec. Breaker Size	A	15	15

* See the Post and Pre Heater table.

Electrical Connection			230V
LCDI Power Cord	Amps	A	15
	Plug	NEMA	6-15P
Quick-connect whip	Length	in (mm)	40 (1,016)

Electrical (General) - Motors			
Compressor	RLA	A	6
	LRA	A	6
Indoor ECM fan motor	Max Watts	W	425
	F.L.A.	A	2
	Power	HP	1/6
Outdoor ECM fan motor	Max Watts	W	405
	F.L.A.	A	1.9
	Power	HP	1/8

	Pre Heater		Post Heater		
	1,000 W	**1,800 W**	**2,700 W**	**3,600 W**	**4,500 W**
208 V	818 W / 3.9 A	1,472 W / 7.1 A	2,200 W / 10.6 A	2,945 W / 14.2 A	2,945 W / 14.2 A
230 V	1,000 W / 4.3 A	1,800 W / 7.8 A	2,700 W / 11.7 A	3,600 W / 15.6 A	3,600 W / 15.6 A
240 V	1,089 W / 4.5 A	1,960 W / 7.5 A	3,000 W / 11.3 A	3,920 W / 16.3 A	3,920 W / 16.3 A

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

Unit Dimensions and Mechanical Details		
Dimensions		23.4" W x 26.6" D x 75.4" H
		594 mm W x 658 mm D x 1,915 mm H
Net weight	lb (kg)	332 (150.6)
Gross weight	lb (kg)	350 (158.8)
Cabinet finish		Black covered with dark gray EPDM
Cabinet material		Steel

Dimensions

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