

# A2L SERENITY VERTICAL STACK, VERTICAL & HORIZONTAL PACKAGED WATER SOURCE HEAT PUMPS



**Engineered**  
*Comfort*

The Comfort of Quality

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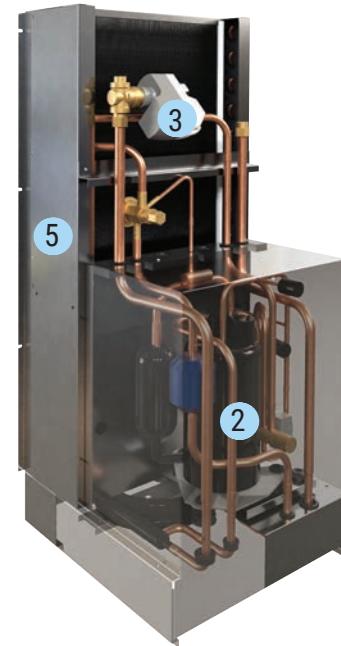
# Serenity Water Source Heat Pumps

## Heat pump solutions designed for tight spaces

Welcome to a new era of efficiency, comfort, and sustainability in high-rise living. Engineered Comfort is proud to introduce our groundbreaking Hi-Rise Water Source Heat Pump systems. Designed to elevate your building's environmental performance and occupant well-being, our innovative technology represents the pinnacle of heating and cooling solutions for tall structures. Perfect for new, existing and retrofit project where space is a constraint. Discover how Engineered Comfort's Hi-Rise Water Source Heat Pumps are redefining the standards of urban comfort and responsible design. Elevate your expectations; the future of high-rise climate control begins here.



# Key Features and Benefits • 44VHB and 44VCB Series

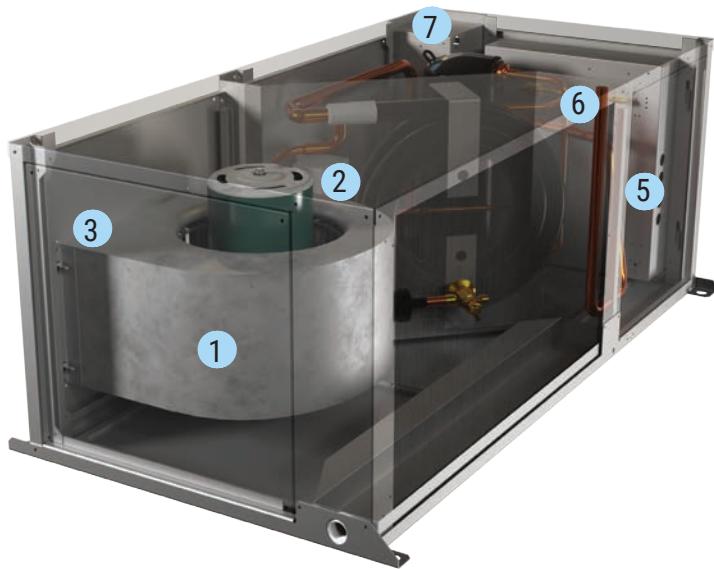


- 1 **FAN ASSEMBLIES:** Forward curved, DWDI centrifuged type blower. • Single phase, 3-Speed ECM motors with thermal overload protection. • Quick disconnect motor connections. • Easily removable slide out fan/motor deck for service.
- 2 **COMPRESSOR:** Highly efficient rotary (sizes 9 -15) and scroll (sizes 18+) compressors provide energy efficient operation. • Vibration isolated mounting and insulated compressor compartment allow for quiet operation.
- 3 **BALL VALVES:** Shutoff valves with hose bib connection are available as an option.
- 4 **FRONT RETURN PANEL:** Dual doors for separate access to fan and filter. • High performance louvered return air grille. • Quarter-turn cam lock fasteners. • Durable baked powder coat Appliance White paint finish.
- 5 **CHASSIS:** Removable, allows staged installation and ease of

service and routine maintenance. By utilizing a single set of risers, Serenity® units stack from floor to floor to simplify installation. For staged installation projects, cabinets can be shipped separately from the refrigerant chassis. • The chassis, which includes the complete refrigerant circuit, slides into the cabinet after the construction debris has been removed to ensure trouble-free operation at start-up. • When a chassis requires service, it can be quickly replaced in a matter of minutes by sliding the existing chassis out and sliding a spare chassis into the cabinet.

- 6 **FILTERS:** 1" throwaway standard (factory provided) or an optional 1" or 2" MERV 8 for improved indoor air quality.
- 7 **CABINET:** 1/2" (13) Steri-liner, 4 lb/ft<sup>3</sup> density foil backed insulation. • 1/2" (13) Fiber-free elastomeric closed cell foam insulation. • Manual or motorized outside air damper. • Custom built sub-base.

# Key Features and Benefits • 44PV-B and 44PH-B Series



- 1 **FAN ASSEMBLIES:** Easily removable slide out fan/motor deck for service.
  - Single phase, 5-Speed ECM motors with thermal overload protection.
  - A large panel provides service access to the blower and motor.
- 2 **COMPRESSOR:** Highly efficient rotary (sizes 6 -18) and scroll (sizes 24+) compressors provide energy efficient operation.
  - Vibration isolated mounting and insulated compressor compartment allow for quiet operation.
- 3 **FIELD CONVERTIBLE FAN OUTLET:** Access panels are interchangeable to allow field conversion of the blower to provide maximum flexibility during installation.
- 4 **SERVICE PORT CONNECTIONS:** Two service ports are located inside the compressor access panel, one on the low side and one on the high side of the refrigeration circuit.
  - Easily accessible for routine service.
- 5 **SOLID STATE CONTROL BOARD:** Freeze protection - Factory set switch for water and water / glycol solution systems

initiates a fault when temperatures exceed the selected limit for 30 continuous seconds.

- Condensate overflow - The controller is designed to sense when condensate water levels in the drain pan become excessively high.
- Low pressure switch - A normally closed low refrigerant pressure switch is used to help protect the refrigerant circuit from excessively low refrigerant pressure.
- Low liquid temp - Factory set switch for water and water / glycol solution systems initiates a fault when temperatures exceed the selected limit for 30 continuous seconds.

- 6 **HIGH EFFICIENCY AIR FILTERS:** Optional High efficiency MERV 8, MERV 11 and MERV 13 pleated filters.
- 7 **NON-FUSED DISCONNECT:** Optional non-fused disconnect switch.
  - The disconnect switch is used to break power to the unit for ease of field.

# AHRI Performance Data

## Model Series 44VHB/VCB\* • Serenity Vertical Stack Water Source Heat Pump

Unit Size	D x W x H	TON	Cooling	Heating	GPM	Cooling		Heating		Compressor	44VHB w/ Return Air Panel (lbs)	44VCB (lbs)	Operating Weight (lbs)
			CFM	Capacity (btuh)		EER	Capacity (btuh)	COP	145		88		
9	17 x 17 x 88	3/4	325	400	3.0	8800	14.5	11500	5.1	Rotary	145	88	233
12	17 x 17 x 88	1	425	500	3.5	12000	15.0	15000	5.0	Rotary	145	88	233
15	20 x 20 x 88	1 1/4	500	600	4.5	15000	15.6	17500	5.3	Rotary	165	111	276
19	20 x 20 x 88	1 1/2	625	700	5.5	19000	16.0	22000	4.8	Scroll	165	130	295
24	24 x 24 x 88	2	800	900	7.0	24000	15.1	28000	4.6	Scroll	210	150	360
30	24 x 24 x 88	2 1/2	1000	1100	8.0	29000	15.8	31000	4.8	Scroll	210	174	384
36	24 x 24 x 88	3	1200	1300	9.0	35500	15.2	38500	4.6	Scroll	210	174	384

\* For complete unit, must order 44VHB and 44VCB

## Model Series 44PH-B • Serenity Horizontal Packaged Water Source Heat Pump

Unit Size	D x W x H	TON	CFM	GPM	Cooling*		Heating**		Compressor	Operating Weight (lbs)
					Capacity (btuh)	EER	Capacity (btuh)	COP		
6	34 x 20 x 11-1/2	1/2	200	2.0	6,000	17.0	7,500	5.6	Rotary	125
9	34 x 20 x 11-1/2	3/4	300	2.5	9,000	14.0	11,500	4.4	Rotary	128
12	34 x 20 x 11-1/2	1	400	3.0	12,500	13.0	15,000	4.4	Rotary	130
15	43 x 22 x 17	1 1/4	500	3.8	15,000	17.0	18,000	5.6	Rotary	180
18	43 x 22 x 17	1 1/2	600	4.5	18,000	17.0	21,600	5.6	Rotary	190
24	45 x 22 x 17	2	800	6.0	24,000	16.4	28,000	5.2	Scroll	230
30	45 x 22 x 17	2 1/2	1000	7.5	30,000	16.0	34,000	5.0	Scroll	235
36	55 x 22 x 19	3	1200	9.0	36,000	17.0	43,000	5.0	Scroll	280
42	55 x 22 x 22	3 1/2	1400	10.5	42,000	15.0	49,000	4.6	Scroll	320
48	55 x 25 x 22	4	1600	12.0	48,000	15.0	56,000	4.6	Scroll	325
60	55 x 25 x 22	5	2000	15.0	58,000	15.0	72,000	4.6	Scroll	340

## Model Series 44PV-B • Serenity Vertical Packaged Water Source Heat Pump

Unit Size	D x W x H	TON	CFM	GPM	Cooling*		Heating**		Compressor	Operating Weight (lbs)
					Capacity (btuh)	EER	Capacity (btuh)	COP		
6	19 x 19 x 24	1/2	200	2.0	6,000	17.0	7,500	5.6	Rotary	135
9	19 x 19 x 24	3/4	300	2.5	9,000	14.0	11,500	4.4	Rotary	138
12	19 x 19 x 24	1	400	3.0	12,500	13.0	15,000	4.4	Rotary	140
15	22 x 22 x 36	1 1/4	500	3.8	15,000	17.0	18,000	5.6	Rotary	185
18	22 x 22 x 36	1 1/2	600	4.5	18,000	17.0	21,600	5.6	Rotary	195
24	22 x 22 x 40	2	800	6.0	24,000	16.4	28,000	5.2	Scroll	235
30	26 x 25 x 40	2 1/2	1000	7.5	30,000	16.0	34,000	5.0	Scroll	255
36	26 x 25 x 45	3	1200	9.0	36,000	17.0	43,000	5.0	Scroll	280
42	26 x 25 x 45	3 1/2	1400	10.5	42,000	15.0	49,000	4.6	Scroll	290
48	32 x 25 x 45	4	1600	12.0	48,000	15.0	56,000	4.6	Scroll	320
60	32 x 25 x 45	5	2000	15.0	58,000	15.0	72,000	4.6	Scroll	340

\* Based on 86°F Entering Water Temp., 80°F DB 67°F WB Air Temperature.

\*\* Based on 68°F Entering Water Temp., 68°F DB 59°F WB Air Temperature.

Performance based upon 208/60/1 voltage.

Performance data can change at any time without notice.

# Serenity Water Source Heat Pumps



## About Engineered Comfort

Engineered Comfort is known for our industry leading customer focused approach to providing innovative commercial and industrial HVAC products. Engineered Comfort is a branch of Nailor Industries, a manufacturer of a unique and comprehensive line of products essential for a well designed HVAC system. Product offerings include Air Control

and Distribution products, VAV Terminal Units, Green Building products, Fan Coil Units, Electric Duct Heaters, Sound Attenuators, Air Handling Units and Filter Housings. Coupled with a wide range of product offerings and industry leading design, testing and manufacturing capabilities, Nailor Industries offers a single source solution for all of your HVAC needs.

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