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Model 44VHB/44VCB • A2L Serenity Vertical Stack Water Source Heat Pump



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 projects 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.

Engineered Comfort's new water source heat pump is designed to be compatible with A2L refrigerants, offering a more environmentally friendly solution with lower global warming potential (GWP) compared to traditional refrigerants. A2L refrigerants provide improved energy efficiency while meeting evolving regulatory requirements for sustainability. Our system ensures safe and reliable operation by incorporating advanced safety controls and optional leak detection measures, making it an ideal choice for modern HVAC applications.



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- **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 R-454B rotary (sizes 9-18) and scroll (sizes 19+) 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 standard on every unit.
- 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: Our removable 44VCB Chassis, allows staged







Model 44VCB

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 10 for improved indoor air quality.
- **7 CABINET:** 1/2" (13) Steri-liner, 4 lb/ft³ density foil backed insulation. 1/2" (13) Fiber-free elastomeric closed cell foam insulation. Manual or motorized outside air damper. Custom built sub-base.

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General Information

Unit Size	DxWxH	CFM	GPM	Cooling*		Heating**		Compressor			Charge
				Capacity (btuh)	EER	Capacity (btuh)	СОР	Qty.	Туре	Refrigerant	(oz)
9	17 x 17 x 88	325	3.0	10000	15.1	12000	5.2	1	Rotary	R-454B	27
12	17 x 17 x 88	425	3.5	12000	15.3	14800	5.1	1	Rotary	R-454B	26
15	20 x 20 x 88	500	4.5	14800	15.8	18200	5.3	1	Rotary	R-454B	37
19	20 x 20 x 88	625	5.5	19000	16.0	22800	5.0	1	Scroll	R-454B	36
24	24 x 24 x 88	800	7.0	24500	15.8	27800	4.6	1	Scroll	R-454B	62
30	24 x 24 x 88	1000	8.0	29400	16.2	31500	4.7	1	Scroll	R-454B	62
36	24 x 24 x 88	1200	9.0	35500	16.1	38200	4.6	1	Scroll	R-454B	62

^{*} 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.

Electrical Data

Unit Size	Voltage	Horsepower - RPM	Blower FLA	Compressor RLA / LRA	Total FLA	MCA	Breaker Size
9	208/1	1/4	1.1	4.0 / 22	5.1	6.1	15
	265/1	1/4	1.0	4.0 / 23	5	6.0	15
12	208/1	1/4	1.4	4.6 / 25	6	7.2	15
	265/1	1/4	1.2	3.9 / 21	5.1	6.1	15
15	208/1	1/3	1.8	5.2 / 26	7.0	8.3	15
15	265/1	1/3	1.6	4.7 / 21	6.3	7.5	15
19	208/1	1/3	1.8	8.3 / 45.1	10.1	12.2	20
24	208/1	1/3	2.4	10.3 / 60.2	12.7	15.3	25
	265/1	1/3	2.1	10.3 / 60.5	12.4	15.0	25
30	208/1	1/3	3.2	11.9 / 67.8	15.1	18.1	30
	265/1	1/3	2.9	10.9 / 71.7	13.8	16.5	25
36	208/1	1/2	3.7	13.5 / 82.5	17.2	20.6	35
	265/1	1/2	3.3	12.2 / 83	15.5	18.6	30





Performance based upon 208/60/1 voltage.