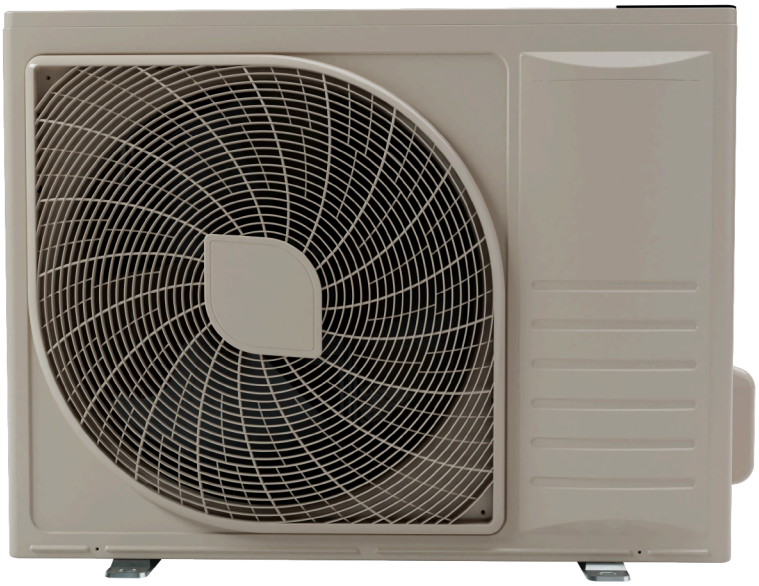
Technical Guide: VH4 Series - 14.3 SEER2/7.5 HSPF2 Horizontal Discharge Heat Pump

R-454B Single-Phase - 1.5 nominal ton to 2.5 nominal ton



BHC Group Heating & Cooling, 5005 York Drive, Norman, OK 73069

6803990-BTG-A-0426

Supersedes: Nothing

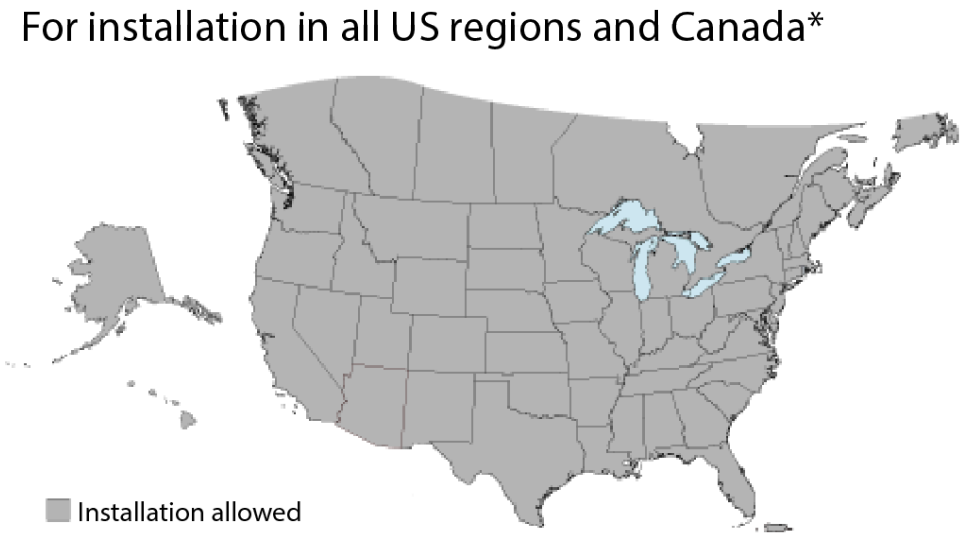
2026-04-21

Contents

Description

VH4 horizontal discharge heat pumps are the outdoor section of a high-efficiency heating and cooling system. The outdoor units are designed to be connected to a matching indoor coil with sweat connect lines. Match each VH4 unit with one ducted indoor unit. This unit is not designed for application in a ductless configuration. Sweat connect units are factory charged based on DOE testing standards for 25 ft refrigerant piping length. Refer to the unit nameplate for charging adjustments.

Figure 1: Installation certification map



*Not currently certified for installation in localities requiring hurricane certification. Check local codes for specific requirements.

Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at www.simplygettingthejobdone.com.

Additional rating information can be found at www.ahridirectory.org.

Certification

Assembled at a facility with an ISO 9001:2015-certified Quality Management System

Warranty summary

Extended 10-year limited parts warranty.

Extended 10-year limited compressor warranty.

Extended parts and compressor warranties require online registration within 90 days of purchase for replacement or closing for new home construction.

The warranty does not apply to R-22 models, R410A models, three-phase models, or internet sales.

See the *Limited Warranty* certificate in the *User's Information Manual* for details.

Features

- **360 DC inverter driven technology:** With 360 DC inverter driven technology, compressor rotation direction and speed is controlled, optimizing energy usage and compressor stability through the range of operating conditions. This guarantees optimal space temperature control while providing quiet operation.
- **Pressure sensor:** This unit contains pressure sensing technology, which detects low pressure in cooling mode and high pressure in heating mode to protect the system from damage. Intelligent control can also be achieved by calculating the indoor coil temperature from system suction pressure.
- **Smaller outdoor form factor for installation flexibility:** This side-discharge outdoor unit saves roughly 35% space over traditional air conditioners. It offers the flexibility of wall, yard, or roof installation.
- **Stable temperature control means optimal comfort:** The DC inverter is able to provide full capacity at startup to cool or warm quickly and adjusts speed to prevent temperature fluctuation and energy loss.
- **Agency listed:** Safety certified by UL 60335-2-40:2022 Ed.4 and CSA C22.2#60335-2-40:2022 Ed.4. Performance certified to ANSI/AHRI Standard 210/240 in accordance with the Unitary Small Equipment certification program.

Nomenclature

Table 1: Horizontal discharge AC and HP nomenclature

Number	Category	Option	Description
1	Configuration	V	Horizontal discharge
2	Product type	C	Air conditioner
		H	Heat pump
3	Efficiency	3	13 SEER2
		4	14 SEER2
		5	15 SEER2
		6	16 SEER2
		7	17 SEER2
		8	18 SEER2
		9	19 SEER2
4, 5	Capacity	12	1 ton
		18	1.5 ton
		24	2 ton
		30	2.5 ton
		34	3 ton
		36	3 ton
		42	3.5 ton
		48	4 ton
		60	5 ton
6	Refrigerant	D	TBC
		E	R-454B
7	Voltage	2	208/230-1-60
		3	208/230-3-60
		4	460-3-60
		5	575-3-60
8	Control strategy	C	Communicating
		B	Wireless (communicating)
		S	Standard (conventional)
		W	Wireless (conventional)
9	Factory option	1	Standard (no options)
		2	Hard start kit
		3	Coastal condenser coil
		4	Coastal condenser coil with hard start kit
10	Generation	1	First generation
		2	Second generation
11	Style	A	Style A
		B	Style B

Table 2: Model nomenclature example

Number	1	2	3	4, 5	6	7	8	9	10	11
Option	V	H	4	24	E	2	S	1	1	A

Physical and electrical data

Table 3: Physical and electrical data

Outdoor unit model	VH418E2S11	VH424E2S11	VH430E2S11
Unit supply voltage	**208/230 V, 1 phase, 60 Hz**		
Normal voltage range[1] (V)	**187 — 253**		
Minimum circuit ampacity (A)	16.0	20.0	21.0
Maximum overcurrent device (A)	25	25	30
Minimum overcurrent device (A)	-	-	-
Compressor type	Twin Rotary	Twin Rotary	Twin Rotary
Compressor rated load	4.2	8.6	13.9
Compressor locked rotor	-	-	-
Crankcase heater	Yes	Yes	Yes
Factory external discharge muffler	No	No	No
HS kit required with TXV	No	No	No
HS Kit Part Number (S1-2SA067*****)	NA	NA	NA
Fan diameter (in.)	19.53	19.53	21.89
Fan Motor Type	DC	DC	DC
Fan motor rated HP	1/12	1/12	1/7
Fan motor rated load (A)	0.5	0.5	0.8
Fan motor nominal CFM	1850/1300	1850/1150	2235/1300
Fan motor nominal RPM	880/700	880/650	870/500
Coil face area (sq. ft.)	6.10	6.10	7.45
Coil rows deep	2	2	2
Coil fins per inch	18	18	18
Liquid refrigerant piping outdoor unit (field-installed)	3/8	3/8	3/8
Vapor refrigerant piping outdoor unit (field-installed)	5/8	5/8	5/8
Unit charge (lb-oz)	3lbs 5oz [53 oz]	4lbs 1oz [65 oz]	4lbs 10oz [74 oz]
Charge (oz/ft)	0.38	0.38	0.38
Operating weight (lb)	98.1	98.1	113.5

Physical and electrical data notes

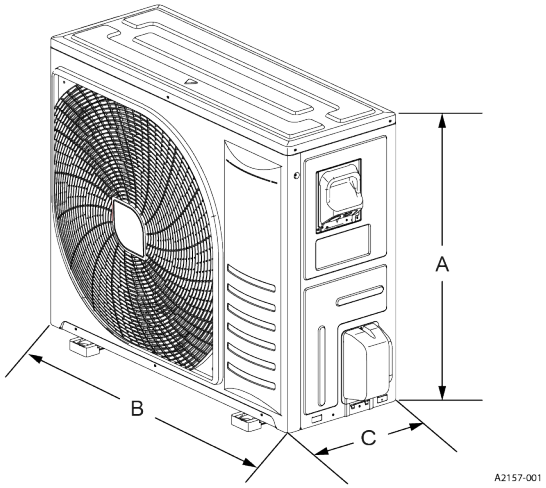
1. Rated in accordance with AHRI Standard 110-2016, utilization range A.
2. Dual element fuses or HACR circuit breaker. Maximum allowable overcurrent protection.

Dimensions

Table 4: Dimensions

Unit model	Dimensions (in.)			Refrigerant connection service valve (in.)	
	A	B	C	Liquid	Vapor
VH418E2S11	26 3/8	33 7/8	12 1/4	3/8	5/8
VH424E2S11	26 3/8	33 7/8	12 1/4		
VH430E2S11	29 1/2	35 3/7	13 3/8		

Figure 2: Dimensions



Dimensions notes

- All dimensions are in inches and are subject to change without notice.
- The overall height is from the bottom of the base pan to the top of the fan guard.
- The overall length and width include screw heads.

System charge table

Table 5: System charge table

Outdoor unit model	VH418E2S11	VH424E2S11	VH430E2S11
Supplier indoor metering device[12]	RFGF19E-3.0A-3334	RFGF19E-3.0A-3334	RFGF19E-3.0A-3334
S1 indoor metering device	S1-2359019	S1-2359019	S1-2359019
Indoor unit[34]	Additional charge (oz)		
VHE18B5YK2SS1	0	—	—
VHE24B5YK2SS1	—	0	—
VHE30B5YK2SS1	—	—	0

System charge notes

- For applications that require a TXV, use RFGF19E-3.0A-3334.
- Use a TXV kit with these indoor units to obtain system performance.
- Systems matched with furnaces or air handlers that are not equipped with blower-off delays may require blower time delay.
- The charge adders shown in the table do not indicate that coils are rated for every application. Refer to the performance data tables in the Technical Guide for actual performance for specified system matches. Obtain certified system ratings from www.ahridirectory.org.
- All of the combinations shown in the table require advanced main air circulating fan indoor product.

Charging

1. The unit factory charge comes as per DOE testing on refrigerant piping length of 25 ft. Refer to the unit Nameplate.
2. Verify the indoor metering device and additional charge required for the specific matched indoor unit in the system using the table above.
3. As per DOE testing, the unit is provided with a charge for 25 ft. If the field supplied refrigerant piping is 15 ft in length, subtract the amount of refrigerant to account for the difference in the actual refrigerant piping length for the field installation. See the *Refrigerant piping* table in the *Installation Manual* for more information.
4. Add additional refrigerant charge for the amount of interconnecting line tubing greater that 25 ft at the rate of 0.38 oz/ft. See the *Refrigerant piping* table in the *Installation Manual* for more information.
5. For installations requiring additional charge, weigh in refrigerant for the specific matching indoor unit and actual refrigeration piping length.
6. After weighing in the charge adders for the matched indoor unit and refrigeration piping, verify the system operation against the temperatures and pressures in the charging chart for the outdoor unit. Locate the charging charts on the outdoor unit and also in the Service Data Application Guide on www.simplygettingthejobdone.com. Follow the charging procedure in the *Installation Manual* according to the type of indoor metering device in the system, and allow 10 min after each charge adjustment for the system operation to stabilize. Record the charge adjustment made to match the charging chart.
7. For downflow installations and horizontal right installations, some indoor units require additional charging adjustments to ensure correct equipment operation. Refer to the *Installation Manual* for the outdoor unit.
8. Permanently stamp the unit nameplate with the total system charge, which is defined as follows: total system charge = base charge (as shipped) + charge adder for matched indoor unit + charge adder for actual refrigeration piping length.

Applications and accessories

Table 6: Minimum and maximum operating limit conditions

Air temperature	Outdoor coil °F (°C)	
	DB cool	DB heat
Minimum	35 (2)	-5 (-21)
Maximum	120 (49)	75 (24)

The following accessories are compatible with H Series heat pumps:

Filter drier: Use a field-supplied R-454B bi-flow liquid-line filter drier.

Sound power rating cooling

Table 7: Sound power rating full cooling

Outdoor unit model	Power level 63 (Hz)	Power level 125 (Hz)	Power level 250 (Hz)	Power level 500 (Hz)	Power level 1000 (Hz)	Power level 2000 (Hz)	Power level 4000 (Hz)	Power level 8000 (Hz)	dBA	SQI
VH418E2S11(18000)	72	72	64	63	60	55	50	49	65	19
VH424E2S11(24000)	73	73	67	63	61	57	52	52	67	19
VH430E2S11(30000)	70	72	65	70	65	61	57	52	71	19

Table 8: Sound power rating low cooling

Outdoor unit model	Power level 63 (Hz)	Power level 125 (Hz)	Power level 250 (Hz)	Power level 500 (Hz)	Power level 1000 (Hz)	Power level 2000 (Hz)	Power level 4000 (Hz)	Power level 8000 (Hz)	dBA	SQI
VH418E2S11(18000)	68	70	63	61	59	53	46	43	63	19
VH424E2S11(24000)	68	71	63	60	58	53	46	43	63	19
VH430E2S11(30000)	69	70	65	62	60	57	51	45	65	19

Sound power rating heating

Table 9: Sound power rating full heating

Outdoor unit model	Power level 63 (Hz)	Power level 125 (Hz)	Power level 250 (Hz)	Power level 500 (Hz)	Power level 1000 (Hz)	Power level 2000 (Hz)	Power level 4000 (Hz)	Power level 8000 (Hz)	dBA	SQI
VH418E2S11(18000)	74	75	64	62	59	55	50	48	65	19
VH424E2S11(24000)	74	75	71	63	60	56	53	53	67	19
VH430E2S11(30000)	69	74	67	69	64	61	57	52	70	19

Table 10: Sound power rating low heating

Outdoor unit model	Power level 63 (Hz)	Power level 125 (Hz)	Power level 250 (Hz)	Power level 500 (Hz)	Power level 1000 (Hz)	Power level 2000 (Hz)	Power level 4000 (Hz)	Power level 8000 (Hz)	dBA	SQI
VH418E2S11(18000)	68	70	62	60	57	53	46	42	62	19
VH424E2S11(24000)	74	75	64	61	59	54	48	43	65	19
VH430E2S11(30000)	70	74	66	65	62	59	53	48	68	19

Mechanical specifications

Take note of the mechanical specifications outlined in the following sections.

Manufacture and certifications

- Units shall be assembled at a facility with an ISO 9001:2015-certified Quality Management System.
- Units shall be certified by UL 60335-2-40:2022 Ed.4 and CSA C22.2#60335-2-40:2022 Ed.4 and performance certified to ANSI/AHRI Standard 210/240.
- Units shall be sound tested according to ANSI/AHRI Standard 270.
- Certified matched system ratings will be available for download from the AHRI online directory at www.ahridirectory.org.

Unit application

- Units shall be approved for cooling operation between 35ºF and 120°F without modification.
- Units shall be approved for heating operation between -5ºF and 75ºF without modification.
- Units shall be approved for refrigeration piping up to an equivalent length of 148 ft for VH418E2S11 and VH424E2S11 units, and 180 ft for VH430E2S11units.
- Units shall be approved for installation at a minimum of 8 in. (long side) and 6 in. (short side) of a flat vertical wall without modification, according to the instructions in the technical literature. See Figure 3.
- Units shall be designed to 71 dBA or less to minimize sound pollution.

Unit access

- Units shall be factory leak checked, run tested, and shipped with a holding charge of R-454B refrigerant.
- Unit cabinet components shall be G90 equivalent steel finished with powder-coat paint rated at a minimum of 1,000 h under ASTM B117 testing.
- Units shall be constructed with a high-pressure switch for system protection.
- Units shall be constructed with all badging and labels applied at the factory.

Unit components

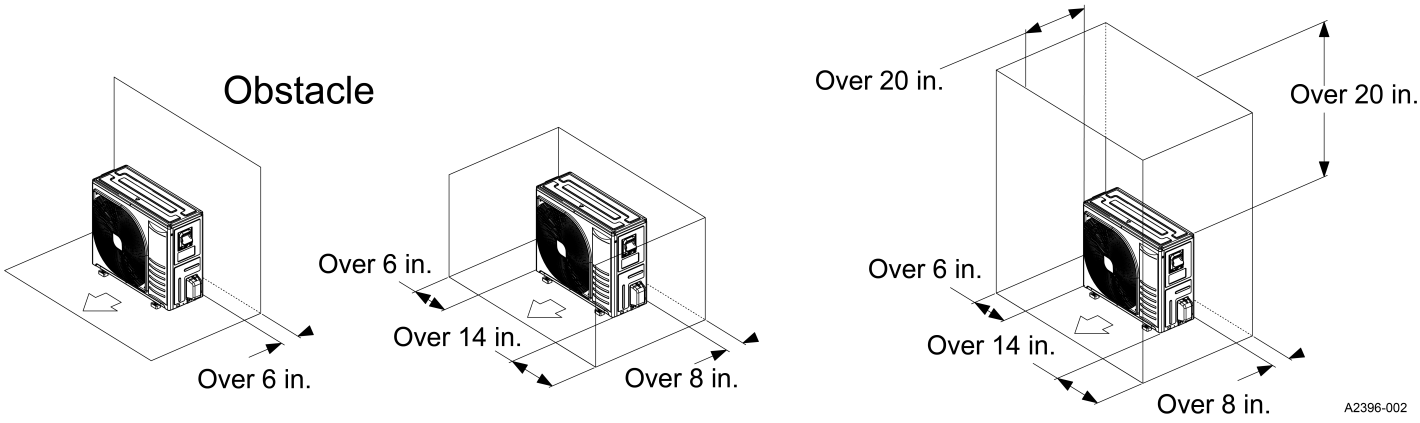
- Compressor shall be hermetic with internal electrical overload protection and internal overpressure protection.
- Compressor shall be mounted on neoprene vibration isolators that do not require the removal of transportation clips or brackets.
- Outdoor fan shall be direct drive with horizontal air discharge for low sound levels.
- Outdoor fan blades shall be swept-wing to minimize sound (applies to select models).
- Outdoor fan motor shall be totally enclosed with permanently lubricated ball bearings motors approved for horizontal shaft applications.
- Outdoor fan motor shall be ECM construction with permanently lubricated ball bearing motors approved for horizontal shaft applications.

Unit warranties

- Unit manufacturer shall provide a 5-year compressor warranty without a requirement for unit registration.

Typical installation

Figure 3: Minimum clearances when selecting a location



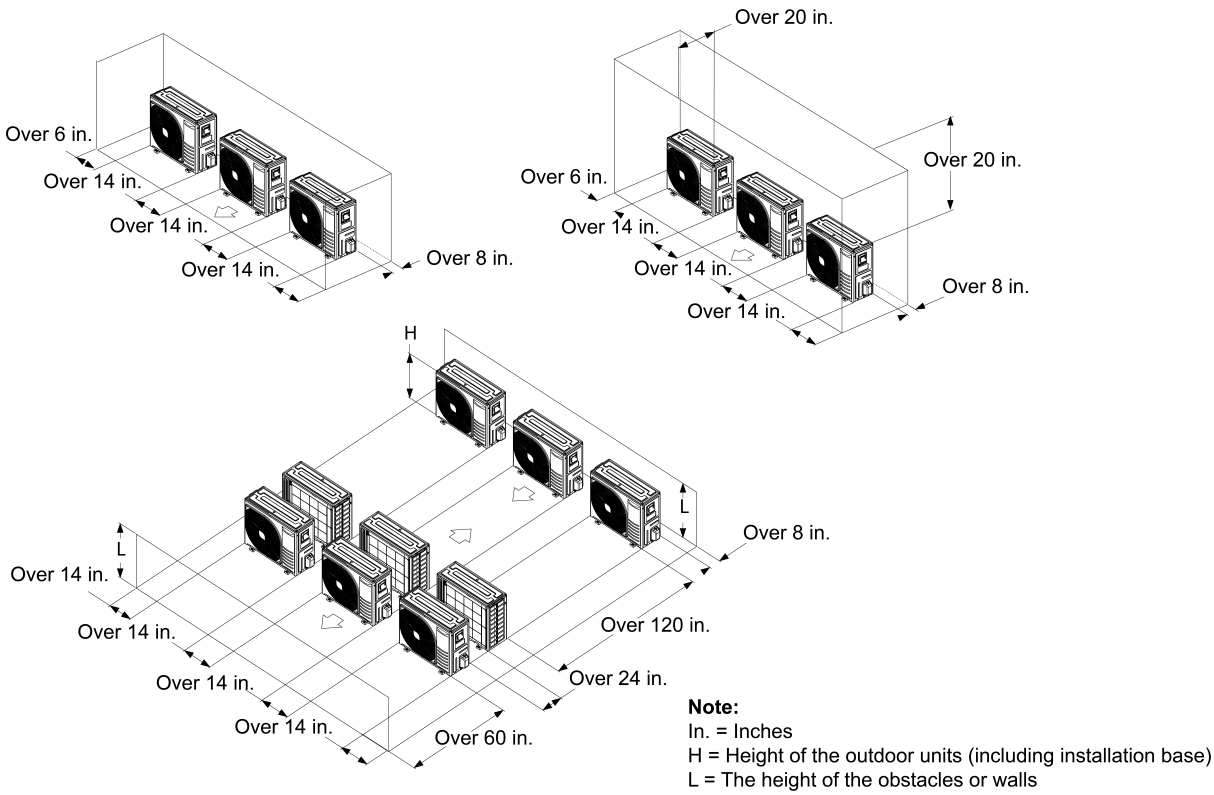
CAUTION

Caution

Take care to prevent ice from damaging the unit. Damage may occur from ice falling onto unit from a sloped roof or from a vertical drip line due to a partial overhang.

Alternative installation clearances

Figure 4: Alternative installation clearances for multiple units



Note:
In. = Inches
H = Height of the outdoor units (including installation base)
L = The height of the obstacles or walls
H<L is not allowed

A2397-002

Performance data - 1.5 ton

See the following tables for cooling and heating performance data for the VH418E2S11 unit.

Cooling performance data - 1.5 ton

Table 11: Cooling performance data - 1.5 ton

Air temperature entering outdoor unit (°F)	Indoor CFM	450					600					750				
	Indoor dry bulb (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	Indoor wet bulb (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55	Total capacity	16.3	17.3	18.0	21.4	23.4	19.5	19.9	20.3	22.6	24.4	22.7	22.4	22.7	23.9	25.5
	Sensible capacity	16.2	15.4	13.5	14.3	11.3	19.2	18.6	16.1	16.1	12.4	22.3	21.7	18.7	17.9	13.5
	kW	0.78	0.84	0.85	1.14	1.17	1.03	1.09	1.07	1.22	1.25	1.28	1.34	1.28	1.30	1.33
65	Total capacity	15.6	17.2	17.5	20.6	22.7	18.6	19.4	19.8	22.0	23.8	21.6	21.7	22.0	23.4	24.9
	Sensible capacity	15.6	15.1	12.9	13.8	11.1	18.6	18.0	15.4	15.6	12.1	21.6	20.8	17.8	17.5	13.1
	kW	0.83	0.95	0.95	1.19	1.21	1.09	1.16	1.15	1.28	1.29	1.34	1.37	1.35	1.36	1.37
75	Total capacity	14.9	17.1	17.1	19.9	22.1	17.7	19.0	19.2	21.4	23.3	20.5	20.9	21.3	22.9	24.4
	Sensible capacity	14.9	14.9	12.4	13.2	10.9	17.7	17.4	14.7	15.2	11.8	20.5	19.8	17.0	17.1	12.7
	kW	0.88	1.06	1.05	1.25	1.26	1.14	1.23	1.23	1.33	1.34	1.41	1.41	1.41	1.42	1.42
85	Total capacity	15.4	16.7	16.2	19.0	20.3	17.6	18.5	18.1	20.5	22.0	19.7	20.2	20.0	21.9	23.6
	Sensible capacity	15.4	15.2	12.2	13.0	10.2	17.6	17.5	14.4	14.9	11.3	19.7	19.9	16.6	16.8	12.3
	kW	1.19	1.26	1.20	1.40	1.42	1.38	1.41	1.38	1.49	1.51	1.57	1.56	1.56	1.58	1.59
95	Total capacity	15.9	16.4	15.4	18.2	18.5	17.4	18.0	17.1	19.6	20.7	19.0	19.6	18.8	21.0	22.9
	Sensible capacity	15.9	15.5	12.0	12.7	9.5	17.4	17.7	14.1	14.6	10.7	19.0	19.6	16.2	16.6	11.9
	kW	1.49	1.47	1.34	1.55	1.58	1.61	1.59	1.53	1.65	1.67	1.73	1.71	1.71	1.74	1.76
105	Total capacity	15.3	15.4	14.6	17.2	18.2	16.2	16.7	16.2	18.3	19.9	17.2	18.1	17.8	19.4	21.6
	Sensible capacity	15.3	14.4	11.2	12.1	9.1	16.2	16.3	13.2	13.9	10.1	17.2	18.1	15.2	15.8	11.1
	kW	1.90	1.79	1.57	1.78	1.89	1.91	1.85	1.77	1.88	1.99	1.92	1.91	1.91	1.97	2.08
115	Total capacity	14.6	14.3	13.8	16.1	17.9	15.0	15.3	15.2	17.0	19.0	15.4	16.5	16.7	17.7	20.2
	Sensible capacity	14.5	13.3	10.3	11.5	8.7	15.0	14.8	12.2	13.2	9.4	15.4	16.4	14.1	14.9	10.2
	kW	2.30	2.10	1.80	2.00	2.20	2.20	2.10	2.00	2.10	2.30	2.10	2.10	2.10	2.20	2.40
120	Total capacity	13.6	12.8	12.6	14.6	17.0	13.4	13.6	13.8	15.1	17.6	13.1	14.4	15.0	15.5	18.2
	Sensible capacity	13.6	12.6	9.9	11.3	8.6	13.4	13.6	11.7	13.0	9.1	13.1	14.4	13.5	14.6	9.7
	kW	1.95	1.80	1.48	1.62	1.85	1.80	1.72	1.57	1.70	1.94	1.65	1.64	1.66	1.79	2.03

Cooling performance data notes

- All capacities include indoor fan heat. kW values are for the system (outdoor + indoor).
- Drive output is limited in the shaded area. Performance may vary and interpolation is not permissible.

Heating performance data - 1.5 ton

Table 12: Heating performance data - 1.5 ton

Air temperature entering outdoor unit (°F)	Air temperature entering indoor unit (°F)	450			600			750		
		MBH	COP	kW	MBH	COP	kW	MBH	COP	kW
60	60	22.00	4.68	1.38	22.90	5.05	1.33	23.70	5.44	1.28
60	70	21.10	4.21	1.48	22.10	4.49	1.44	23.00	4.88	1.39
60	80	20.30	3.73	1.59	21.30	4.01	1.55	22.20	4.31	1.51
47	60	19.00	4.22	1.32	19.80	4.46	1.30	20.60	4.70	1.28
47	70	18.30	3.78	1.43	19.10	3.95	1.41	19.80	4.21	1.39
47	80	17.60	3.34	1.55	18.30	3.52	1.52	19.00	3.71	1.50
40	60	16.80	3.87	1.27	17.60	4.08	1.26	18.40	4.30	1.26
40	70	16.40	3.53	1.37	17.20	3.68	1.37	17.90	3.90	1.36
40	80	16.10	3.18	1.48	16.80	3.34	1.47	17.40	3.49	1.46
30	60	15.00	3.62	1.21	15.60	3.74	1.22	16.20	3.86	1.23
30	70	14.40	3.26	1.31	14.90	3.33	1.31	15.30	3.46	1.31
30	80	13.90	2.89	1.41	14.20	2.97	1.40	14.50	3.06	1.39
17	60	12.10	3.18	1.11	12.40	3.18	1.15	12.80	3.18	1.18
17	70	11.40	2.82	1.20	12.00	2.85	1.23	12.50	2.92	1.26
17	80	10.80	2.46	1.28	11.50	2.57	1.31	12.20	2.67	1.34
10	60	11.00	2.95	1.09	11.30	2.94	1.13	11.60	2.94	1.16
10	70	10.20	2.59	1.17	10.80	2.63	1.20	11.30	2.69	1.23
10	80	9.50	2.24	1.24	10.20	2.35	1.27	10.90	2.45	1.30
0	60	9.10	2.52	1.06	9.50	2.54	1.09	9.80	2.55	1.13
0	70	8.30	2.17	1.14	8.80	2.19	1.18	9.30	2.25	1.22
0	80	7.60	1.82	1.23	8.10	1.89	1.26	8.70	1.95	1.30
-5	60	7.10	2.18	0.96	7.60	2.22	1.00	8.00	2.25	1.04
-5	70	6.70	1.81	1.12	7.10	1.80	1.16	7.60	1.89	1.21
-5	80	6.20	1.43	1.28	6.70	1.48	1.32	7.10	1.52	1.37

Heating performance data notes

- Calculations are based on a nominal CFM and an indoor dry bulb temperature of 70°F.
- kW indicates total system power.
- The shaded area represents the AHRI rating conditions at an outdoor ambient temperature of 47°F.
- The performance data provided is only for reference and is derived from AHRI nominal data. In certain applications, actual performance may deviate from these values.

Performance data - 2 ton

See the following tables for cooling and heating performance data for the VH424E2S11 unit.

Cooling performance data - 2 ton

Table 13: Cooling performance data - 2 ton

Air temperature entering outdoor unit (°F)	Indoor CFM	600					800					1000				
	Indoor dry bulb (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	Indoor wet bulb (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55	Total capacity	22.6	24.6	26.0	27.3	30.0	24.6	26.3	27.6	29.7	31.9	26.5	28.0	29.2	32.2	33.8
	Sensible capacity	21.8	20.4	17.9	17.5	14.3	24.5	23.7	20.5	20.2	15.8	26.5	27.0	23.0	22.9	17.4
	kW	1.54	1.73	1.92	1.99	2.05	1.81	1.90	2.00	2.05	2.13	2.07	2.07	2.08	2.11	2.20
65	Total capacity	22.5	23.7	24.6	26.2	29.3	24.5	25.3	26.1	28.0	30.5	26.6	26.9	27.6	29.7	31.8
	Sensible capacity	22.1	20.2	17.4	17.2	13.9	24.5	23.4	20.0	19.7	15.2	26.6	26.6	22.6	22.2	16.5
	kW	1.82	1.92	2.03	2.09	2.15	2.00	2.05	2.10	2.16	2.22	2.18	2.17	2.18	2.22	2.29
75	Total capacity	22.3	22.8	23.2	25.2	28.6	24.5	24.3	24.5	26.2	29.2	26.7	25.8	25.9	27.1	29.7
	Sensible capacity	22.3	20.0	16.8	16.9	13.4	24.5	23.1	19.5	19.3	14.5	26.5	25.8	22.1	21.6	15.6
	kW	2.10	2.12	2.13	2.19	2.26	2.20	2.20	2.20	2.26	2.32	2.29	2.27	2.27	2.33	2.39
85	Total capacity	21.5	22.2	22.5	24.6	27.7	23.5	23.6	23.8	25.9	28.8	25.5	24.9	25.1	27.2	30.0
	Sensible capacity	21.5	19.6	16.5	16.6	12.9	23.5	22.6	19.1	19.0	14.3	25.5	24.9	21.7	21.5	15.6
	kW	2.31	2.32	2.33	2.40	2.49	2.41	2.41	2.41	2.48	2.56	2.52	2.49	2.49	2.55	2.62
95	Total capacity	20.6	21.6	21.8	24.1	26.7	22.4	22.8	23.1	25.6	28.5	24.3	24.1	24.4	27.2	30.2
	Sensible capacity	20.6	19.2	16.2	16.3	12.5	22.4	22.0	18.7	18.8	14.1	24.3	24.1	21.2	21.3	15.6
	kW	2.52	2.52	2.53	2.61	2.72	2.63	2.61	2.61	2.69	2.79	2.75	2.71	2.70	2.77	2.86
105	Total capacity	18.8	19.4	19.2	21.1	23.4	20.2	20.4	20.2	22.2	24.6	21.7	21.4	21.2	23.5	25.8
	Sensible capacity	18.7	17.6	14.8	14.8	11.4	20.2	19.6	16.8	17.0	12.8	21.7	21.4	18.9	19.2	14.2
	kW	2.51	2.51	2.42	2.51	2.56	2.62	2.56	2.51	2.60	2.65	2.73	2.61	2.60	2.64	2.73
115	Total capacity	16.9	17.2	16.5	18.0	20.1	18.0	18.0	17.2	18.8	20.7	19.1	18.6	18.0	19.8	21.4
	Sensible capacity	16.5	16.0	13.3	13.3	10.2	17.7	17.1	14.8	15.2	11.5	18.9	18.2	16.5	17.1	12.8
	kW	2.50	2.50	2.30	2.40	2.40	2.60	2.50	2.40	2.50	2.50	2.70	2.50	2.50	2.50	2.60
120	Total capacity	13.4	13.4	12.3	13.2	14.9	14.0	13.8	12.7	13.7	15.0	14.7	14.2	13.1	14.1	15.0
	Sensible capacity	13.4	13.4	11.3	11.3	8.7	14.0	13.8	12.3	12.8	9.8	14.7	14.2	13.1	14.1	10.8
	kW	1.75	1.75	1.58	1.60	1.62	1.82	1.73	1.64	1.65	1.67	1.88	1.72	1.70	1.71	1.72

Cooling performance data notes

- All capacities include indoor fan heat. kW values are for the system (outdoor + indoor).
- Drive output is limited in the shaded area. Performance may vary and interpolation is not permissible.

Heating performance data - 2 ton

Table 14: Heating performance data - 2 ton

Air temperature entering outdoor unit (°F)	Air temperature entering indoor unit (°F)	600			800			1000		
		MBH	COP	kW	MBH	COP	kW	MBH	COP	kW
60	60	31.40	4.07	2.26	32.20	4.30	2.19	33.00	4.54	2.13
60	70	30.40	3.69	2.43	31.40	3.89	2.37	32.40	4.15	2.30
60	80	29.50	3.32	2.60	30.60	3.54	2.54	31.70	3.77	2.47
47	60	26.60	3.72	2.09	27.30	3.87	2.07	28.10	4.02	2.05
47	70	25.90	3.39	2.25	26.70	3.52	2.22	27.60	3.70	2.20
47	80	25.30	3.07	2.41	26.10	3.22	2.38	27.00	3.37	2.34
40	60	23.70	3.50	1.98	24.50	3.62	1.98	25.30	3.75	1.98
40	70	22.90	3.19	2.12	23.80	3.30	2.12	24.80	3.44	2.12
40	80	22.20	2.88	2.25	23.20	3.01	2.26	24.20	3.13	2.26
30	60	20.30	3.21	1.85	21.00	3.28	1.88	21.80	3.35	1.90
30	70	19.60	2.93	1.97	20.40	3.00	1.99	21.20	3.09	2.02
30	80	18.90	2.65	2.09	19.80	2.74	2.11	20.60	2.83	2.13
17	60	16.70	2.88	1.71	17.40	2.92	1.75	18.10	2.96	1.79
17	70	16.30	2.65	1.81	16.90	2.68	1.85	17.60	2.73	1.90
17	80	15.80	2.42	1.91	16.50	2.46	1.96	17.10	2.50	2.00
10	60	13.60	2.46	1.63	14.90	2.59	1.68	16.10	2.71	1.74
10	70	13.20	2.36	1.73	14.40	2.38	1.78	15.70	2.52	1.83
10	80	12.70	2.27	1.83	14.00	2.19	1.88	15.30	2.33	1.93
0	60	13.10	2.46	1.57	13.60	2.42	1.64	14.00	2.38	1.72
0	70	11.80	2.14	1.62	12.40	2.15	1.69	13.00	2.17	1.75
0	80	10.40	1.82	1.68	11.20	1.89	1.73	12.00	1.96	1.79
-5	60	9.50	2.24	1.24	9.80	2.22	1.30	10.10	2.19	1.35
-5	70	8.80	1.88	1.40	9.30	1.85	1.46	9.70	1.90	1.52
-5	80	8.10	1.52	1.57	8.70	1.57	1.63	9.30	1.61	1.69

Heating performance data notes

- Calculations are based on a nominal CFM and an indoor dry bulb temperature of 70°F.
- kW indicates total system power.
- The shaded area represents the AHRI rating conditions at an outdoor ambient temperature of 47°F.
- The performance data provided is only for reference and is derived from AHRI nominal data. In certain applications, actual performance may deviate from these values.

Performance data - 2.5 ton

See the following tables for cooling and heating performance data for the VH430E2S11 unit.

Cooling performance data - 2.5 ton

Table 15: Cooling performance data - 2.5 ton

Air temperature entering outdoor unit (°F)	Indoor CFM	800					1000					1200				
	Indoor dry bulb (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	Indoor wet bulb (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55	Total capacity	29.9	32.6	32.6	36.3	38.6	32.3	34.0	34.1	37.2	40.3	34.6	35.2	35.4	38.0	41.9
	Sensible capacity	27.9	26.1	22.5	22.5	18.0	30.4	29.1	24.9	24.8	19.3	32.7	32.0	27.2	26.9	20.5
	kW	2.13	2.19	2.27	2.32	2.25	2.35	2.36	2.34	2.35	2.33	2.62	2.57	2.45	2.42	2.46
65	Total capacity	29.9	31.4	31.9	34.3	36.7	32.1	32.7	33.2	35.1	38.9	34.2	33.9	34.4	35.7	41.0
	Sensible capacity	28.0	25.7	21.7	21.8	17.4	30.2	28.7	24.4	24.1	18.8	32.3	31.5	26.8	26.2	20.1
	kW	2.30	2.34	2.39	2.43	2.42	2.46	2.46	2.46	2.49	2.50	2.66	2.63	2.57	2.58	2.63
75	Total capacity	29.8	30.2	31.2	32.4	34.8	31.9	31.5	32.3	33.0	37.5	33.8	32.7	33.3	33.5	40.1
	Sensible capacity	28.2	25.3	21.0	21.2	16.9	30.1	28.2	23.8	23.3	18.3	31.8	31.0	26.4	25.4	19.6
	kW	2.46	2.48	2.50	2.54	2.59	2.56	2.57	2.57	2.62	2.67	2.70	2.70	2.69	2.75	2.79
85	Total capacity	28.4	29.2	29.6	31.6	34.0	30.2	30.4	30.9	32.5	36.0	31.9	31.4	32.1	33.2	37.8
	Sensible capacity	26.9	24.7	20.7	20.7	16.4	28.7	27.4	23.3	23.0	17.8	30.5	29.9	25.7	25.2	19.1
	kW	2.66	2.72	2.73	2.79	2.86	2.79	2.81	2.81	2.88	2.94	2.96	2.95	2.94	3.01	3.07
95	Total capacity	26.9	28.2	28.0	30.7	33.3	28.6	29.3	29.5	31.9	34.5	30.1	30.2	30.8	33.0	35.6
	Sensible capacity	25.6	24.1	20.3	20.3	15.9	27.4	26.6	22.8	22.7	17.3	29.1	28.9	25.0	25.0	18.6
	kW	2.86	2.96	2.96	3.04	3.12	3.01	3.06	3.05	3.13	3.21	3.22	3.20	3.19	3.26	3.34
105	Total capacity	23.8	24.6	24.2	26.5	28.3	25.0	25.6	25.4	27.5	29.4	25.9	26.3	26.4	28.3	30.4
	Sensible capacity	22.9	21.9	18.6	18.6	14.3	24.3	23.8	20.8	20.8	15.6	25.5	25.6	22.6	22.9	16.7
	kW	2.83	2.88	2.88	2.97	2.96	2.96	2.98	2.98	3.07	3.06	3.11	3.15	3.10	3.18	3.22
115	Total capacity	20.7	21.0	20.4	22.2	23.2	21.3	21.8	21.3	23.0	24.3	21.7	22.3	21.9	23.6	25.1
	Sensible capacity	20.2	19.7	16.9	16.9	12.7	21.1	21.0	18.7	18.9	13.8	21.7	22.2	20.2	20.7	14.7
	kW	2.80	2.80	2.80	2.90	2.80	2.90	2.90	2.90	3.00	2.90	3.00	3.10	3.00	3.10	3.10
120	Total capacity	18.9	19.0	18.3	19.8	20.5	19.2	19.7	19.0	20.5	21.5	19.4	20.1	19.4	21.0	22.3
	Sensible capacity	18.4	18.1	15.7	15.6	11.6	19.0	19.1	17.2	17.5	12.6	19.4	20.0	18.5	19.2	13.4
	kW	2.58	2.57	2.56	2.63	2.52	2.64	2.66	2.65	2.72	2.64	2.72	2.82	2.76	2.82	2.84

Cooling performance data notes

- All capacities include indoor fan heat. kW values are for the system (outdoor + indoor).
- Drive output is limited in the shaded area. Performance may vary and interpolation is not permissible.

Heating performance data - 2.5 ton

Table 16: Heating performance data - 2.5 ton

Air temperature entering outdoor unit (°F)	Air temperature entering indoor unit (°F)	450			600			750		
		MBH	COP	kW	MBH	COP	kW	MBH	COP	kW
60	60	37.60	4.31	2.56	38.80	4.50	2.52	39.90	4.70	2.49
60	70	36.30	3.89	2.75	37.50	4.04	2.72	38.70	4.25	2.69
60	80	34.90	3.47	2.95	36.20	3.63	2.92	37.50	3.80	2.89
47	60	33.00	3.88	2.49	34.20	4.05	2.48	35.40	4.21	2.47
47	70	32.30	3.55	2.68	33.40	3.67	2.67	34.60	3.84	2.66
47	80	31.50	3.21	2.88	32.60	3.34	2.86	33.70	3.47	2.84
40	60	30.30	3.71	2.39	30.90	3.78	2.40	31.50	3.84	2.40
40	70	29.20	3.41	2.51	30.00	3.46	2.54	30.80	3.53	2.57
40	80	28.00	3.12	2.63	29.10	3.17	2.68	30.10	3.22	2.74
30	60	26.40	3.42	2.26	27.10	3.45	2.30	27.70	3.47	2.34
30	70	25.50	3.11	2.41	26.20	3.14	2.45	26.90	3.20	2.48
30	80	24.50	2.80	2.57	25.30	2.86	2.59	26.10	2.93	2.61
17	60	22.10	3.02	2.14	22.30	3.00	2.18	22.60	2.99	2.22
17	70	21.60	2.78	2.29	22.00	2.77	2.33	22.50	2.79	2.37
17	80	21.20	2.54	2.44	21.70	2.57	2.48	22.30	2.59	2.52
10	60	19.40	2.75	2.06	20.10	2.79	2.12	20.90	2.82	2.17
10	70	19.30	2.57	2.21	19.90	2.60	2.25	20.60	2.56	2.28
10	80	19.20	2.39	2.36	19.70	2.43	2.37	20.20	2.29	2.39
0	60	17.30	2.31	2.19	17.30	2.25	2.26	17.30	2.19	2.32
0	70	16.80	2.13	2.31	17.00	2.10	2.37	17.20	2.07	2.43
0	80	16.30	1.96	2.44	16.70	1.96	2.49	17.10	1.96	2.55
-5	60	13.20	2.41	1.61	13.70	2.37	1.70	14.20	2.33	1.79
-5	70	12.90	2.10	1.83	13.40	2.05	1.91	13.90	2.07	1.99
-5	80	12.60	1.80	2.06	13.10	1.80	2.13	13.60	1.81	2.20

Heating performance data notes

- Calculations are based on a nominal CFM and an indoor dry bulb temperature of 70°F.
- kW indicates total system power.
- The shaded area represents the AHRI rating conditions at an outdoor ambient temperature of 47°F.
- The performance data provided is only for reference and is derived from AHRI nominal data. In certain applications, actual performance may deviate from these values.

Third-party trademarks notice

Third-Party Trademarks Notice: For information about third-party trademarks, refer to the relevant company websites.