FIRST CO.
P.O. BOX 270969 - DALLAS, TEXAS 75227
PH. (214) 388-5751 | FAX (214) 388-2255
WWW.FIRSTCO.COM

VHBQB Series

Variable Speed With Pump

AquaTherm® by First Co.

Compatible with 1 or 2 Stage A/C

1.5 - 5 Tons Cooling

Up to 90,700 BTUH Hot Water

Heating with HW Pump

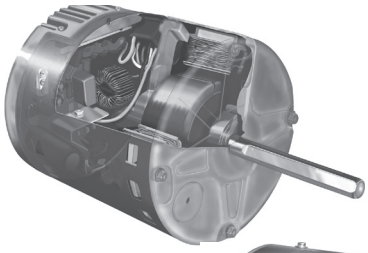
AHRI CERTIFIED® www.ahridirectory.org
Unitary Small AC
AHRI Standard 210/240
Certification applies only when the complete system is listed with AHRI.

VHBQB Series

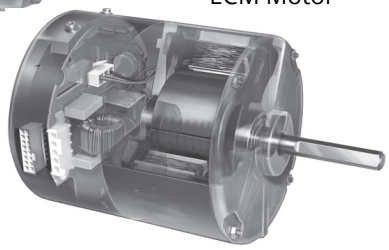
The **VHBQB** motor automatically adjusts its torque and speed to maintain a preprogrammed level of **constant airflow** over a wide range of external static pressures. This variable speed technology offers **better indoor air quality**, more **precise humidity control**, **quieter operation**, **consistent indoor air temperature**, and **lower utility bills**.

VHBQB Series

High Efficiency - At full load conditions the **VHBQB** motor is 20% more efficient than an induction motor and at constant fan speed it consumes only **60-80 watts** of power compared to 400 watts for a standard induction motor. In addition, the **VHBQB** includes a high efficiency "A" coil with factory installed TXV for precise refrigerant control.



Variable Speed ECM Motor



These fan coils are compatible with any source of hot water that doesn't exceed 180°F and is NSF/ANSI certified for use with domestic water.

(1) First Co's customer is ultimately responsible for confirming which fan coil models are compatible with selected outdoor unit(s) and which expansion valves (if any) are required. To determine certified indoor/outdoor matches, go to **www.firstco.com** or **AHRI.org**.

STANDARD FEATURES:

Quiet Operation

The versatile **VHBQB** motor quietly "ramps up" when the unit is turned on and "ramps down" when the thermostat is satisfied, eliminating the annoying sounds of changing airflow.

Self-Regulating Constant Airflow

The **VHBQB** motor is factory programmed to maintain a predetermined level of airflow over a wide range of external static pressures, ensuring optimum system performance and whole-house comfort. The benefits of constant fan operation are:

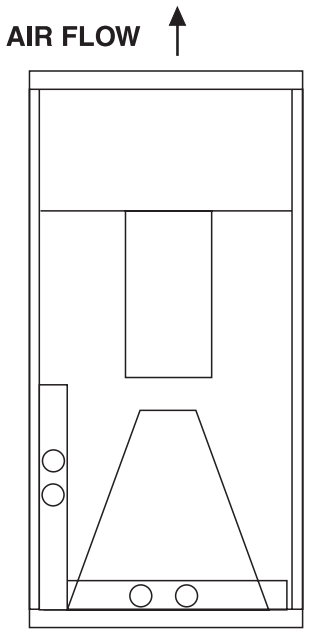
- **Consistent air distribution** (and temperature) throughout the home.
- **Better indoor air quality** (further improved with the addition of a high efficiency filter) - This allows the air to be filtered without excessive drafts and without sacrificing efficiency.
- **Better humidity control** - The **VHBQB** is designed to extract much more moisture from the air than a conventional system by slowing the airflow over the cooling coil. The result is an improved summer comfort level at higher indoor temperature.

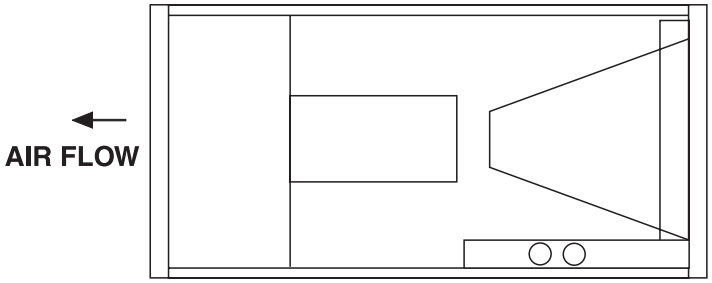
VHBQB Series

Additional features

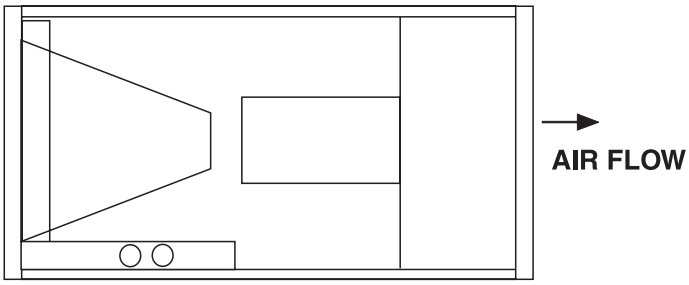
- Hot water coil with circulating pump, air purge valve, and easy access check valve (all required with water heater applications)
- Factory installed R410a TXV
- Blower door safety switch (except 48/60VHBQB)
- Hot water coil assembly slides out for easier service
- Attractive baked-on powder coat finish
- Fully insulated cabinet
- Primary and secondary drain connections on cooling coil
- Optional hot water coil freeze protector, Upflow / Horizontal drain pans
- Higher efficiency pleated filter
- Compatible with most properly sized and installed zone control systems. Contact the zone control manufacturer

3-WAY AIRFLOW



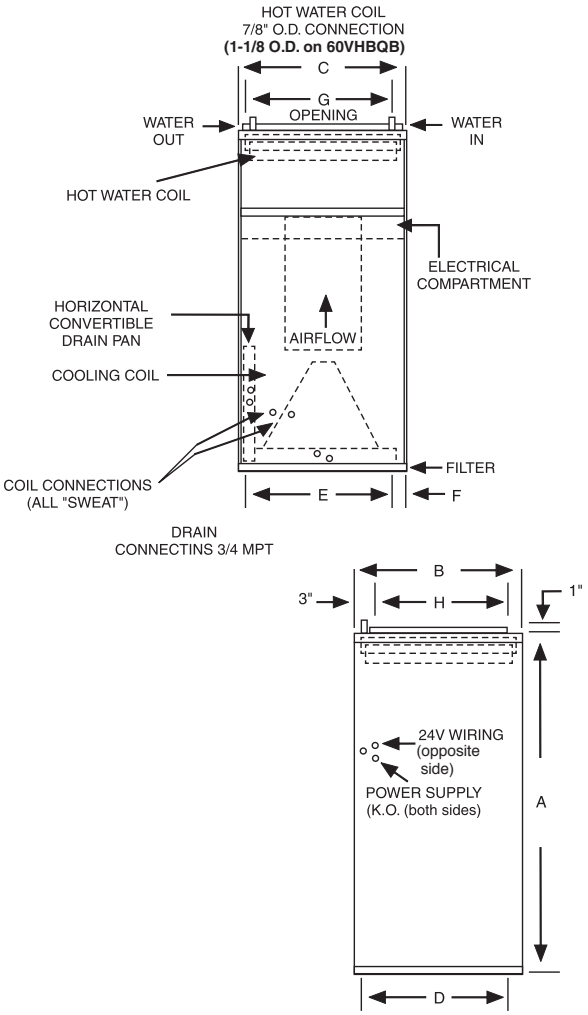


(STANDARD HORIZONTAL POSITION)



(ALTERNATE HORIZONTAL POSITION)
(FIELD-CONVERTIBLE)

VHBQB Series



COIL CONNECTIONS		
UNIT SIZE	LIQUID	SUCTION
24	3/8	5/8
36	3/8	3/4
46/60	1/2	7/8

ELECTRICAL DATA					
UNIT MODEL	MOTOR HP (120V)	MOTOR AMPS	PUMP AMPS	MIN. CIR. AMPACITY	MAX. HACR BREAKER
24VHBQB	1/3	4.8	0.57	7	15
36VHBQB	1/2	7.3	0.57	10	15
48VHBQB	1	10.5	0.57	14	15
60VHBQB	1	11.5	0.75	15	20

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
24VHBQB	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
36VHBQB	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
48VHBQB	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60VHBQB	52	28	25-1/4	26-1/4	21-1/4	2	22	24	14 X 24 X 1 (2 required)

For additional sales and technical information on variable speed motors, visit www.thedealertoolbox.com

Digital thermostats for these units must have a "C" terminal.

HEATING PERFORMANCE DATA													
UNIT MODEL	NOMINAL COOLING BTUH	HEAT CFM	GPM (HTG.)	P.D. (FT. WTR)	BTUH (1000) AT ENTERING WATER TEMPATURE Delta-T 20ºF & GPM							
					120°F	GPM	130°F	GPM	140°F	GPM	180°F (4)	GPM
24VHBQB	18,000/ 24,000	800 700 600 500	3.5	4.3	24.9 22.9 20.7 18.5	2.5 2.3 2.1 1.9	29.9 27.4 24.9 22.1	3.0 2.7 2.5 2.2	34.9 32.0 29.0 25.8	3.5 3.2 2.9 2.6	54.8 50.3 45.6 40.6	5.5 5.0 4.6 4.1
36VHBQB	30,000/ 36,000	1200 1050 900 750	3.5	5.0	33.4 30.8 28.1 25.0	3.3 3.1 2.8 2.5	40.0 36.9 33.8 30.1	4.0 3.7 3.4 3.0	46.7 43.1 39.4 35.1	4.7 4.3 3.9 3.5	73.4 67.7 61.9 55.1	7.3 6.8 6.2 5.5
48VHBQB	42,000/ 48,000	1600 1400 1200 1000	3.5	3.4	47.0 43.4 39.2 34.7	4.7 4.3 3.9 3.5	56.4 52.1 47.1 41.6	5.6 5.2 4.7 4.2	65.8 60.8 54.9 48.6	6.6 6.1 5.5 4.9	103.4 95.5 86.3 76.3	10.3 9.6 8.6 7.6
60VHBQB	48,000/ 60,000	2000 1800 1600 1400	7	8.8	64.8 59.5 53.5 47.1	6.5 6.0 5.4 4.7	77.8 71.3 64.2 56.6	7.8 7.1 6.4 5.7	90.7 83.2 74.9 66.0	9.1 8.3 7.5 6.6	142.6 130.8 117.7 103.7	14.3 13.1 11.8 10.4

NOTES:
1. Heating output of fan coil will not exceed net output of water heater.
2. Approved for installation with 0" clearance to combustible materials.
3. Heat BTUH is at 70°F entering air temperature.
4. Based on 20ºF Delta-T. velocity not to exceed 4ft./sec.

NSF/ANSI 169:2016

VHBQB Series

AIRFLOW DATA															
MODEL	OPERATING MODE	THERMOSTAT TERMINALS "X" ENERGIZED TERMINAL						CONTROL BOARD SELECT TAPS							
								COOL TAP				HEAT TAP			
		Y1	Y2	HUM	G	O	W1	A	B	C	D	A	B	C	D
24VHBQB (1.5 / 2 TON)	COOLING														
	SINGLE STAGE		X		X	X		800	720	600	525				
	TWO STAGE	X	X		X	X		560 / 800	500 / 720	420 / 600	370 / 525				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		640	575	480	420				
	TWO STAGE	X	X	X	X	X		450 / 640	400 / 575	335 / 480	295 / 420				
	CONTINUOUS BLOWER				X			400	360	300	260				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			800	720	600	525				
	TWO STAGE	X	X		X			560 / 800	500 / 720	420 / 600	370 / 525				
	HEATING (NON-HT. PUMP)														
	HEATING						X					750	680	580	500
36VHBQB (1.5 / 3 TON)	COOLING														
	SINGLE STAGE		X		X	X		1200	1050	950	850				
	TWO STAGE	X	X		X	X		840 / 1200	735 / 1050	665 / 950	595 / 850				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		960	840	760	680				
	TWO STAGE	X	X	X	X	X		670 / 960	590 / 840	530 / 760	475 / 680				
	CONTINUOUS BLOWER				X			600	525	475	425				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			1200	1050	950	850				
	TWO STAGE	X	X		X			840 / 1200	735 / 1050	665 / 950	595 / 850				
	HEATING (NON-HT. PUMP)														
	HEATING						X					1150	1000	900	800
48VHBQB	COOLING														
	SINGLE STAGE		X		X	X		1600	1400	1250	1100				
	TWO STAGE	X	X		X	X		1120 / 1600	980 / 1400	875 / 1250	770 / 1100				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		1280	1120	1000	880				
	TWO STAGE	X	X	X	X	X		895 / 1280	785 / 1120	700 / 1000	615 / 880				
	CONTINUOUS BLOWER				X			800	700	625	550				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			1600	1400	1250	1100				
	TWO STAGE	X	X		X			1120 / 1600	980 / 1400	875 / 1250	770 / 1100				
	HEATING (NON-HT. PUMP)														
	HEATING						X					1500	1300	1150	1000
60VHBQB	COOLING														
	SINGLE STAGE		X		X	X		2000	1800	1600	1400				
	TWO STAGE	X	X		X	X		1400 / 2000	1260 / 1800	1120 / 1600	980 / 1440				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		1600	1440	1280	1120				
	TWO STAGE	X	X	X	X	X		1120 / 1600	1010 / 1440	895 / 1280	785 / 1120				
	CONTINUOUS BLOWER				X			1000	900	800	700				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			2000	1800	1600	1400				
	TWO STAGE	X	X		X			1400 / 2000	1260 / 1800	1120 / 1600	980 / 1440				
	HEATING (NON-HT. PUMP)														
	HEATING						X					1850	1650	1500	1300

Airflow shown are at standard air conditions, dry coil at 120 volts.
Max. ext. static pressure is 0.50" wtr

NOTES:

The cooling and heating speed taps are factory set on "A".
The delay profile is factory set on "A" (Arid setting).
The adjust profile is factory set on "Normal:"
Adjust profile (+) will increase airflow by 10%, while tap (-) will decrease airflow by 10%

VHBQB Series

Model Numbers:

	FACTORY INSTALLED TXV'S	
MODEL SIZE (BTU)	MODEL (R22 TXV)	MODEL (R410a TXV)
18,000 / 24,000	24VHBQB w/R22 TXV	24VHBQB w/R410a TXV
30,000 / 36,000	36VHBQB w/R22 TXV	36VHBQB w/R410a TXV
42,000 / 48,000	48VHBQB w/R22 TXV	48VHBQB w/R410a TXV
48,000 / 60,000	60VHBQB w/R22 TXV	60VHBQB w/R410a TXV

NOTE:
Expansion valve requirement depends on the selected outdoor unit.
Go to www.firstco.com or AHRI.org.

ACCESSORIES:
All Fields Installed

FREEZE PROTECTOR	
KIT NUMBER	FOR
941-1	18 - 60VHBQB

In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

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