

**NOW COMPATIBLE WITH 1 or 2-STAGE A/C AND HEAT PUMPS\* (DUAL FUEL)!!**

**(\* ONLY COMPATIBLE WITH UNITS THAT ENERGIZE THE REVERSING VALVE IN THE COOLING MODE)**



## **EVBQ Series**

**Extra High Efficiency**

**Variable Speed**

**1.5 - 4.0 Tons Cooling or Heat Pump  
Up to 102,800 BTUH Hot Water Heating  
(with pump)**



The **EVBQ** series includes a programmable, high efficiency motor that redefines comfort and energy savings. The **EVBQ** 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.

**Extra High Efficiency** - At full load conditions the **EVBQ** 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 **EVBQ** includes a high efficiency "A" coil with factory installed TXV for precise refrigerant control.

**(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 approved indoor/outdoor matches, go to: [www.firstco.com](http://www.firstco.com) or contact the factory.**

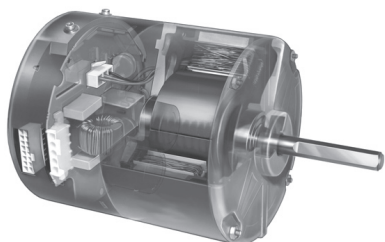
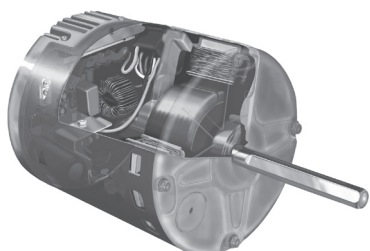
**Quiet Operation** - The versatile **EVBQ** motor quietly "ramps up" when the unit is turned on and "ramps down" when the thermostat is satisfied, eliminating the annoying sounds of changing airflow.

**Self-Regulating Constant Airflow** - The **EVBQ** 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 **EVBQ** 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.

**Additional Standard Features:**

- Factory installed R-410A TXV
- Automatic pump timer that automatically energizes 4 times a day (60 sec. each cycle) to purge the hot water coil. (cycle is skipped while compressor is operating)
- Hot water coil with circulating pump, air purge valve, and easy access check valve (all required with water heater applications)
- Convenient connections for boiler or switching relay
- Attractive baked-on powder coat finish
- Fully insulated cabinet
- Primary and secondary drain connections on cooling coil
- Upflow / Horizontal drain pans
- Compatible with most properly sized and installed zone control systems. Contact the zone control manufacturer.
- Optional hot water coil freeze protector



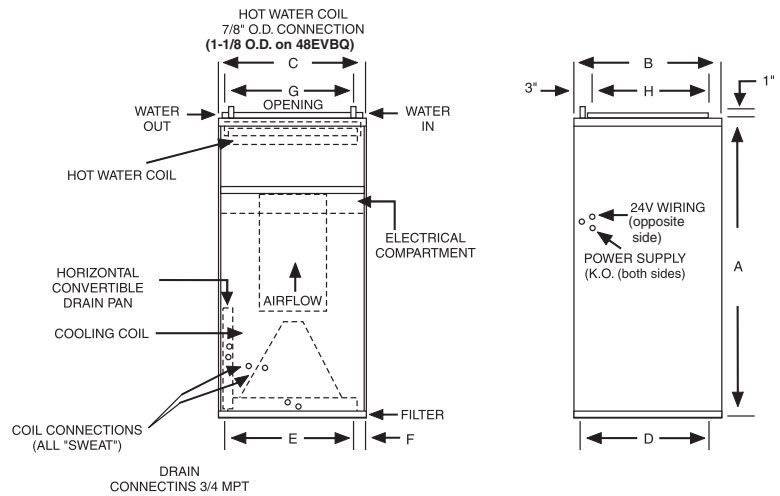
Variable Speed ECM Motor

# EVBQ Series

## COOLING OR HEAT PUMP



(See P.4 for Model Numbers)



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

| COIL CONNECTIONS |        |         |
|------------------|--------|---------|
| UNIT SIZE        | LIQUID | SUCTION |
| 24               | 3/8    | 3/4     |
| 36/48            | 1/2    | 7/8     |

| ELECTRICAL DATA |       |     |      |      |                    |                             |
|-----------------|-------|-----|------|------|--------------------|-----------------------------|
| UNIT MODEL      | MOTOR |     | PUMP |      | MIN. CIR. AMPACITY | MAX. OVERCURRENT PROTECTION |
|                 | AMP   | HP  | AMP  | HP   |                    |                             |
| 24EVBQ          | 4.5   | 1/2 | 0.57 | 1/40 | 7                  | 15                          |
| 36EVBQ          | 7     | 1   | 0.57 | 1/40 | 10                 | 15                          |
| 48EVBQ          | 11    | 1   | 0.57 | 1/40 | 14                 | 15                          |

| HEATING PERFORMANCE DATA |                      |          |         |   |       |       |       |
|--------------------------|----------------------|----------|---------|---|-------|-------|-------|
| UNIT MODEL               | NOMINAL COOLING BTUH | HEAT CFM | GPM HTG | BTUH (1000) AT ENTERING WATER TEMPERATURE |       |       |       |
|                          |                      |          |         | 120°F                                     | 130°F | 140°F | 180°F |
| 24EVBQ                   | 18,000 / 24,000      | 800      | 3.5     | 26.1                                      | 31.2  | 36.5  | 57.3  |
|                          |                      | 700      |         | 24.0                                      | 28.8  | 33.6  | 52.8  |
|                          |                      | 600      |         | 21.8                                      | 26.2  | 30.5  | 48.0  |
|                          |                      | 500      |         | 19.4                                      | 23.2  | 27.1  | 42.6  |
| 36EVBQ                   | 30,000 / 36,000      | 1200     | 3.5     | 34.0                                      | 40.7  | 47.5  | 74.7  |
|                          |                      | 1050     |         | 31.2                                      | 37.4  | 43.7  | 68.6  |
|                          |                      | 900      |         | 28.5                                      | 34.2  | 39.9  | 62.7  |
|                          |                      | 750      |         | 25.5                                      | 30.6  | 35.7  | 56.1  |
| 48EVBQ                   | 42,000 / 48,000      | 1600     | 3.5     | 48.3                                      | 57.9  | 67.6  | 106.2 |
|                          |                      | 1400     |         | 44.6                                      | 53.5  | 62.4  | 98.1  |
|                          |                      | 1200     |         | 40.2                                      | 48.2  | 56.3  | 88.4  |
|                          |                      | 1000     |         | 35.9                                      | 43.0  | 50.2  | 78.9  |

### 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. 180° EWT and these capacities are not available with standard water heaters.

For additional sales and technical information on variable speed motors, visit [www.thedealertools.com](http://www.thedealertools.com)

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

| AIRFLOW DATA             |                   |                           |             |            |            |          |      |      |      |
|--------------------------|-------------------|---------------------------|-------------|------------|------------|----------|------|------|------|
| MODEL                    | OPERATING MODE    | CONTROL BOARD SELECT TAPS |             |            |            |          |      |      |      |
|                          |                   | COOL TAP                  |             |            |            | HEAT TAP |      |      |      |
|                          |                   | A                         | B           | C          | D          | A        | B    | C    | D    |
| 24EV BQ<br>(1.5 / 2 TON) | COOLING           |                           |             |            |            |          |      |      |      |
|                          | SINGLE STAGE      | 900                       | 775         | 650        | 525        |          |      |      |      |
|                          | TWO STAGE         | 630 / 900                 | 545 / 775   | 455 / 650  | 370 / 525  |          |      |      |      |
|                          | COOL & DEHUMIDIFY |                           |             |            |            |          |      |      |      |
|                          | SINGLE STAGE      | 720                       | 620         | 520        | 420        |          |      |      |      |
|                          | TWO STAGE         | 505 / 720                 | 435 / 620   | 365 / 520  | 295 / 420  |          |      |      |      |
|                          | CONTINUOUS BLOWER | 450                       | 390         | 325        | 265        |          |      |      |      |
|                          | HEATING           |                           |             |            |            | 850      | 735  | 620  | 500  |
| 36EV BQ<br>(2.5 / 3 TON) | COOLING           |                           |             |            |            |          |      |      |      |
|                          | SINGLE STAGE      | 1300                      | 1150        | 1000       | 850        |          |      |      |      |
|                          | TWO STAGE         | 910 / 1300                | 805 / 1150  | 700 / 1000 | 595 / 850  |          |      |      |      |
|                          | COOL & DEHUMIDIFY |                           |             |            |            |          |      |      |      |
|                          | SINGLE STAGE      | 1040                      | 920         | 800        | 680        |          |      |      |      |
|                          | TWO STAGE         | 730 / 1040                | 645 / 920   | 560 / 800  | 475 / 680  |          |      |      |      |
|                          | CONTINUOUS BLOWER | 650                       | 575         | 500        | 425        |          |      |      |      |
|                          | HEATING           |                           |             |            |            | 1250     | 1100 | 950  | 800  |
| 48EV BQ<br>(3.5 / 4 TON) | COOLING           |                           |             |            |            |          |      |      |      |
|                          | SINGLE STAGE      | 1700                      | 1550        | 1400       | 1250       |          |      |      |      |
|                          | TWO STAGE         | 1190 / 1700               | 1085 / 1550 | 980 / 1400 | 875 / 1250 |          |      |      |      |
|                          | COOL & DEHUMIDIFY |                           |             |            |            |          |      |      |      |
|                          | SINGLE STAGE      | 1360                      | 1240        | 1120       | 1000       |          |      |      |      |
|                          | TWO STAGE         | 950 / 1360                | 870 / 1240  | 785 / 1120 | 700 / 1000 |          |      |      |      |
|                          | CONTINUOUS BLOWER | 850                       | 775         | 700        | 625        |          |      |      |      |
|                          | HEATING           |                           |             |            |            | 1600     | 1450 | 1300 | 1150 |

Airflow shown are at standard air conditions, dry coil at 120 volts.

**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%

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](http://www.firstco.com).

# Model Numbers:

| FACTORY INSTALLED TXV |                     |
|-----------------------|---------------------|
| MODEL SIZE<br>(BTU)   | MODEL<br>(R410 TXV) |
| 18,000 / 24,000       | 24EVBQ R410 TXV     |
| 30,000 / 36,000       | 36EVBQ R410 TXV     |
| 42,000 / 48,000       | 48EVBQ R410 TXV     |

| FREEZE PROTECTOR |     |
|------------------|-----|
| KIT<br>NUMBER    | FOR |
| 941-1            | ALL |

# ACCESSORIES (field installed)

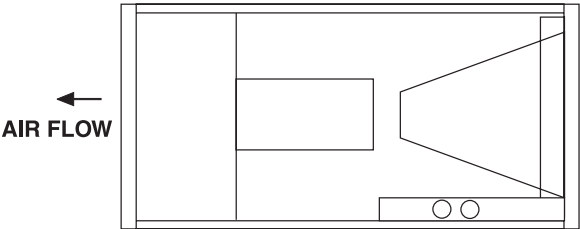
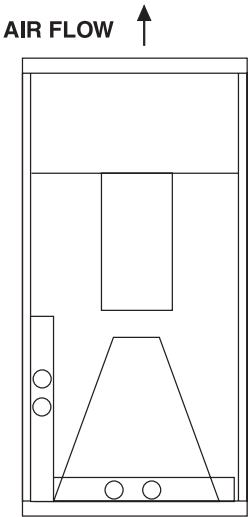
| ACCESSORIES:            |  |               |
|-------------------------|--|---------------|
| Programmable Thermostat |  |               |
| Part<br>Number          | Description  | For           |
| T832                    | Touchscreen,<br>7-day programmable,<br>with humidity control | All<br>Models |

- NOTE:**
1. This thermostat is compatible with single or 2-stage A/C or Heat Pumps.
  2. Contact factory for brochure

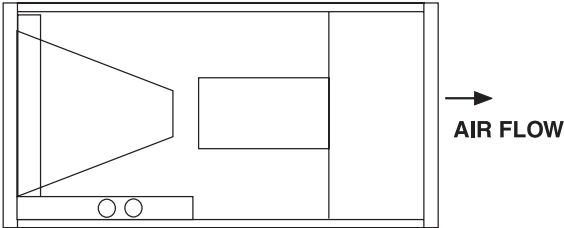


T832

# 3-WAY AIRFLOW



(STANDARD HORIZONTAL POSITION)



(ALTERNATE HORIZONTAL POSITION)  
(FIELD-CONVERTIBLE)