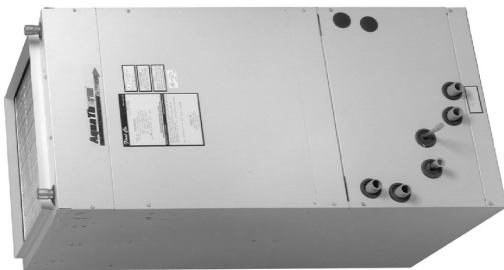




HBXB-HW Series

Hydronic Air Handler, without Pump
Cooling or Heat Pump / HW Heat
1.5 - 5 Tons, up to 131,700 BTUH Heating



The **HBXB-HW** air handler is designed for use with today's high efficiency split-system condensing units, heat pumps, hot water boilers, and Tankless Water Heaters.

Boiler applications: The **HBXB-HW** can be directly wired to a boiler without adding additional relays or related controls. Multiple air handlers can be connected to a single boiler to provide comfortable, efficient, whole house hydronic space heating.

Tankless Water Heater applications: For Tankless Water Heater applications, install the optional high capacity flow control module (**#940-2CV**) in the piping between the Tankless Water Heater and the **HBXB-HW** air handler.

Cooling efficiencies are up to 15 SEER, depending on the outdoor condensing unit or heat pump model. **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 combinations, go to www.firstco.com or contact the factory.**

Standard Features:

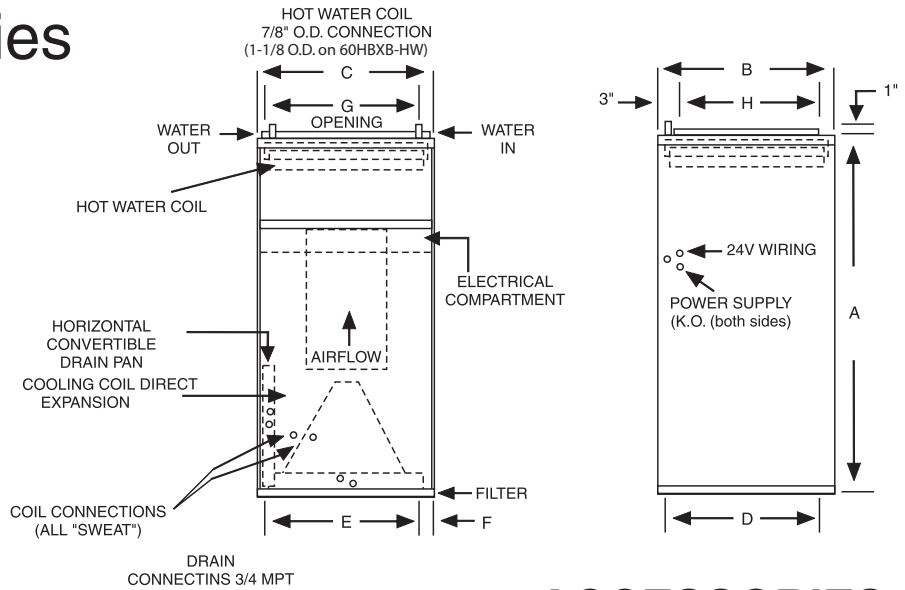
- **Multi-function micro-processor circuit board** with these standard features:
 - **Blower Start Relay** - Eliminates field installed boiler relay, allowing direct wiring from the boiler to the air handler
 - **Blower-on fan delay** - (heating mode) - preheats the HW coil for 45 seconds.
 - **Blower-off fan delay** - (heating and cooling models) - blower continues to operate for 45 seconds after thermostat is satisfied, for increased efficiency.
 - **120V or 24V zone valve control** - The micro-processor powers either 120V or 24V field supplied motorized zone valves.
- Factory or field installed R-410A TXV (cooling or heat pump operation) (non-bleed type)
- Manual Air Vent on hot water coil
- Blower door shut-off switch (except 60HBXB-HW)
- Slide out hot water coil for easier service
- Copper tube heating and cooling coils
- Compatible with all major brands of split condensing units and heat pumps
- Attractive baked-on powder coated cabinet
- Primary and secondary condensate drain connections
- Easily accessible 1" filter
- Cabinet air leakage is no more than 2% when tested in accordance with ASHRAE 193

Optional Accessories: (see p.2)

- **Freeze Protector** - Reduces the possibility of the water coil freezing by switching the unit to the heating mode if the water temperature is nearing freezing conditions.
- **High capacity Flow Control Module for Tankless Water Heater applications (#940-2CV)**

HBXB-HW Series

**DX COOLING
HW HEATING**



(See P.4 for Model Numbers)

| BLOWER DATA | | | | | UPFLOW / HORIZONTAL ONLY | | | | | |
|-------------|----------------------|--------------------|----------------------|-------------------|----------------------------------|------|------|------|------|------|
| UNIT MODEL | MOTOR HP-AMPS (120V) | MIN. CKT. AMPACITY | MAX. CKT. PROTECTION | MOTOR SPEED CONN. | CFM vs. EXTERNAL STATIC PRESSURE | | | | | |
| | | | | | 0.05 | 0.10 | 0.20 | 0.30 | 0.40 | 0.50 |
| 18HBXB-HW | 1/5 - 2.8 | 3.5 | 15 | HIGH | 810 | 780 | 715 | 650 | 580 | 500 |
| | | | | MED. | 680 | 655 | 600 | 545 | 490 | 420 |
| | | | | LOW | 530 | 505 | 460 | 415 | 360 | 295 |
| | | | | LOW | 350 | 325 | 270 | 220 | 160 | --- |
| 24HBXB-HW | 1/5 - 5.1 | 6.38 | 15 | HIGH | 950 | 920 | 855 | 790 | 720 | 645 |
| | | | | MED. | 860 | 835 | 785 | 720 | 650 | 580 |
| | | | | LOW | 780 | 755 | 705 | 650 | 590 | 510 |
| | | | | LOW | 1120 | 1095 | 1045 | 995 | 940 | 880 |
| 30HBXB-HW | 1/5 - 5.1 | 6.38 | 15 | HIGH | 1120 | 1095 | 1045 | 995 | 940 | 880 |
| | | | | MED. | 850 | 840 | 810 | 780 | 740 | 690 |
| | | | | LOW | 680 | 670 | 655 | 625 | 585 | 510 |
| | | | | LOW | 1340 | 1310 | 1250 | 1190 | 1120 | 1050 |
| 36HBXB-HW | 1/2 - 8.5 | 10.63 | 15 | HIGH | 1290 | 1260 | 1200 | 1140 | 1080 | 1000 |
| | | | | MED. | 1200 | 1170 | 1120 | 1070 | 1010 | 940 |
| | | | | LOW | 1810 | 1780 | 1720 | 1660 | 1590 | 1530 |
| | | | | LOW | 1570 | 1550 | 1510 | 1460 | 1400 | 1340 |
| 48HBXB-HW | 3/4 - 10.7 | 13.38 | 15 | HIGH | 1280 | 1260 | 1220 | 1180 | 1130 | 1050 |
| | | | | MED. | 2160 | 2125 | 2055 | 1980 | 1895 | 1810 |
| | | | | LOW | 1865 | 1840 | 1785 | 1710 | 1620 | 1525 |
| | | | | LOW | 1560 | 1540 | 1490 | 1435 | 1365 | 1260 |

NOTES:

- All models are approved for installation with 0" clearance to combustible materials.
- Use 48HBXB-HW for 3.5 ton applications and field-convert fan motor to medium speed.

| PHYSICAL DIMENSIONS | | | | | | | | | |
|------------------------|----|----|--------|--------|--------|---|----|----|-----------------------------|
| UNIT MODEL | A | B | C | D | E | F | G | H | FILTER SIZE |
| 18HBXB-HW 24HBXB-HW | 40 | 20 | 20 | 18-1/2 | 16 | 2 | 18 | 16 | 18 X 20 X 1 |
| 30HBXB-HW 36HBXB-HW | 42 | 23 | 20 | 21-1/2 | 16 | 2 | 18 | 19 | 20 X 22 X 1 |
| 48HBXB-HW | 48 | 28 | 21-1/4 | 26-1/4 | 17-1/4 | 2 | 18 | 24 | 20 X 25 X 1 |
| 60HBXB-HW | 52 | 28 | 25-1/4 | 26-1/2 | 21-1/4 | 2 | 22 | 24 | 14 X 24 X 1 (2 required) |

| COIL CONNECTIONS | | |
|------------------|--------|---------|
| UNIT SIZE | LIQUID | SUCTION |
| 18/24 | 3/8 | 5/8 |
| 30/36 | 3/8 | 3/4 |
| 48/60 | 1/2 | 7/8 |

| FREEZE PROTECTOR | |
|------------------|----------------|
| KIT NUMBER | FOR |
| 941-1 | 18 - 60HBXB-HW |

ACCESSORIES (field installed)

| FLOW CONTROL MODULE | |
|---------------------|--------------|
| PART NUMBER | FOR |
| 940-2CV | 18-60HBXB-HW |

NOTE:

Flow Control Module is required when connecting to individual Tankless Water Heaters. Contact factory for assistance.

| EXPANSION VALVE KITS (Field installed) (cooling only or heat pump) | |
|-----------------------------------------------------------------------|--------------|
| PART NUMBER | FITS |
| R22 | |
| 9EVR22-4 | 18/24HBXB-HW |
| 9EVR22-5 | 30/36HBXB-HW |
| 9EVR22-6 | 48/60HBXB-HW |
| R-410A | |
| 9EVR410-3 | 18/24HBXB-HW |
| 9EVR410-4 | 30/36HBXB-HW |
| 9EVR410-5 | 48/60HBXB-HW |

NOTES:

- Above expansion valve kits are approved for both cooling only (non heat pump) and heat pump applications.
- Valves are non-bleed type. Field added. Hard start kit may be required.
- Valves have screw-on connections.

Model Numbers:

| FACTORY INSTALLED TXV | | |
|-----------------------|----------------|--------------------|
| MODEL SIZE (BTU) | MODEL (PISTON) | MODEL (R-410A TXV) |
| 18,000 | 18HBXB-HW | 18HBXB-HW R410 TXV |
| 24,000 | 24HBXB-HW | 24HBXB-HW R410 TXV |
| 30,000 | 30HBXB-HW | 30HBXB-HW R410 TXV |
| 36,000 | 36HBXB-HW | 36HBXB-HW R410 TXV |
| 42,000/48,000 | 48HBXB-HW | 48HBXB-HW R410 TXV |
| 60,000 | 60HBXB-HW | 60HBXB-HW R410 TXV |

All TXV's are approved for cooling only or heat pump operation (non-bleed type).

NOTE:

Expansion valve requirement depends on the selected outdoor unit.
Go to www.firstco.com or contact the factory for assistance.

| PERFORMANCE DATA | | | | | | | | | |
|------------------|-------------------|-------------------|--------------|-------------|-------------------|-------------------------------------------|-------|-------|-------|
| UNIT MODEL | NOM. COOLING BTUH | MOTOR SPEED CONN. | CFM @ .3 ESP | GPM (HTG.) | P.D. (FT. WTR.) | BTUH (1000) AT ENTERING WATER TEMPERATURE | | | |
| | | | | | | 120°F | 140°F | 160°F | 180°F |
| | | | | | | | | | |
| 18HBXB-HW | 18,000 | HIGH | 650 | 4 3 2 | 2.0 1.1 0.5 | 18.0 | 25.2 | 32.4 | 39.6 |
| | | | | | | 17.2 | 24.1 | 31.0 | 37.9 |
| | | | | | | 15.9 | 22.3 | 28.7 | 35.1 |
| | | MED. | 550 | 4 3 2 | 2.0 1.1 0.5 | 16.3 | 22.9 | 29.4 | 35.9 |
| | | | | | | 15.7 | 22.0 | 28.2 | 34.5 |
| | | | | | | 14.6 | 20.5 | 26.3 | 32.2 |
| | | MED. LOW | 420 | 4 3 2 | 2.0 1.1 0.5 | 14.0 | 19.6 | 25.2 | 30.8 |
| | | | | | | 13.5 | 18.9 | 24.3 | 29.7 |
| | | | | | | 12.7 | 17.8 | 22.9 | 27.9 |
| 24HBXB-HW | 24,000 | HIGH | 800 | 4 3 2 | 2.0 1.1 0.5 | 20.3 | 28.5 | 36.6 | 44.7 |
| | | | | | | 19.4 | 27.1 | 34.9 | 42.7 |
| | | | | | | 17.9 | 25.0 | 32.2 | 39.3 |
| | | MED. | 725 | 4 3 2 | 2.0 1.1 0.5 | 19.2 | 26.9 | 34.6 | 42.3 |
| | | | | | | 18.4 | 25.7 | 33.1 | 40.4 |
| | | | | | | 17.0 | 23.8 | 30.6 | 37.4 |
| | | LOW | 650 | 4 3 2 | 2.0 1.1 0.5 | 18.0 | 25.2 | 32.4 | 39.6 |
| | | | | | | 17.2 | 24.1 | 31.0 | 37.9 |
| | | | | | | 15.9 | 22.3 | 28.7 | 35.1 |
| 30HBXB-HW | 30,000 | HIGH | 1000 | 6 4 2 | 7.5 3.6 1.0 | 25.9 | 36.3 | 46.7 | 57.0 |
| | | | | | | 24.4 | 34.2 | 44.0 | 53.8 |
| | | | | | | 21.1 | 29.6 | 38.0 | 46.5 |
| | | MED. | 780 | 6 4 2 | 7.5 3.6 1.0 | 22.4 | 31.3 | 40.3 | 49.2 |
| | | | | | | 21.2 | 29.7 | 38.2 | 46.6 |
| | | | | | | 18.5 | 26.0 | 33.4 | 40.8 |
| | | LOW | 625 | 6 4 2 | 7.5 3.6 1.0 | 19.6 | 27.5 | 35.3 | 43.1 |
| | | | | | | 18.7 | 26.2 | 33.7 | 41.1 |
| | | | | | | 16.6 | 23.3 | 29.9 | 36.5 |
| 36HBXB-HW | 36,000 | HIGH | 1200 | 6 4 2 | 7.5 3.6 1.0 | 28.8 | 40.3 | 51.8 | 63.3 |
| | | | | | | 27.0 | 37.9 | 48.7 | 59.5 |
| | | | | | | 23.2 | 32.4 | 41.7 | 50.9 |
| | | MED. | 1140 | 6 4 2 | 7.5 3.6 1.0 | 28.0 | 39.2 | 50.4 | 61.5 |
| | | | | | | 26.3 | 36.9 | 47.4 | 57.9 |
| | | | | | | 22.6 | 31.7 | 40.8 | 49.8 |
| | | LOW | 1070 | 6 4 2 | 7.5 3.6 1.0 | 27.0 | 37.8 | 48.6 | 59.4 |
| | | | | | | 25.5 | 35.7 | 45.8 | 56.0 |
| | | | | | | 22.0 | 30.8 | 39.6 | 48.4 |
| 48HBXB-HW | 48,000 | HIGH | 1660 | 7 5 3 | 3.8 2.1 0.8 | 48.2 | 67.5 | 86.8 | 106.1 |
| | | | | | | 45.5 | 63.7 | 81.9 | 100.1 |
| | | | | | | 40.7 | 57.1 | 73.4 | 89.7 |
| | | MED. | 1460 | 7 5 3 | 3.8 2.1 0.8 | 44.7 | 62.6 | 80.5 | 98.3 |
| | | | | | | 42.3 | 59.2 | 76.1 | 93.0 |
| | | | | | | 38.0 | 59.3 | 68.5 | 83.7 |
| | | LOW | 1180 | 7 5 3 | 3.8 2.1 0.8 | 39.1 | 54.8 | 70.4 | 86.1 |
| | | | | | | 37.1 | 52.0 | 66.9 | 81.7 |
| | | | | | | 33.7 | 47.2 | 60.7 | 74.2 |
| 60HBXB-HW | 60,000 | HIGH | 1980 | 9 7 5 | 5.1 3.3 1.9 | 58.5 | 81.9 | 105.3 | 128.6 |
| | | | | | | 56.1 | 78.5 | 100.9 | 123.4 |
| | | | | | | 52.5 | 73.5 | 94.5 | 115.5 |
| | | MED. | 1710 | 9 7 5 | 5.1 3.3 1.9 | 53.6 | 75.1 | 96.5 | 117.9 |
| | | | | | | 51.6 | 72.2 | 92.8 | 113.5 |
| | | | | | | 48.5 | 68.0 | 87.4 | 106.8 |
| | | LOW | 1430 | 9 7 5 | 5.1 3.3 1.9 | 47.9 | 67.0 | 86.2 | 105.3 |
| | | | | | | 46.1 | 64.6 | 83.1 | 101.5 |
| | | | | | | 43.6 | 61.0 | 78.5 | 95.9 |

NOTES:

- (1) Heat BTU is at 65° Entering Air Temperature.
- (2) Units are shipped with motors connected to high speed for cooling and medium speed for heating.

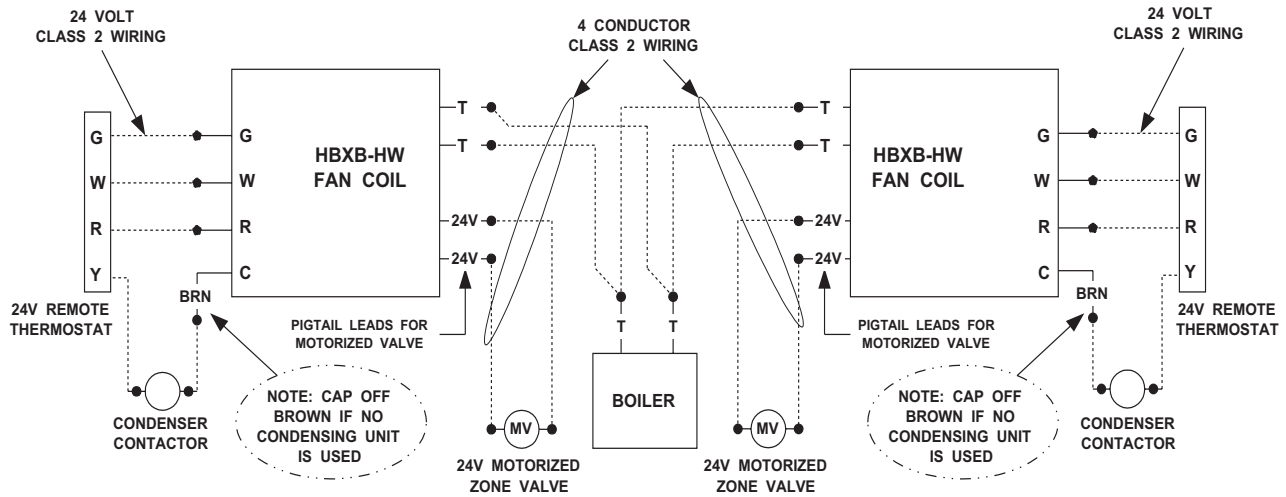
In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

APPLICATION GUIDELINES (for Boilers)

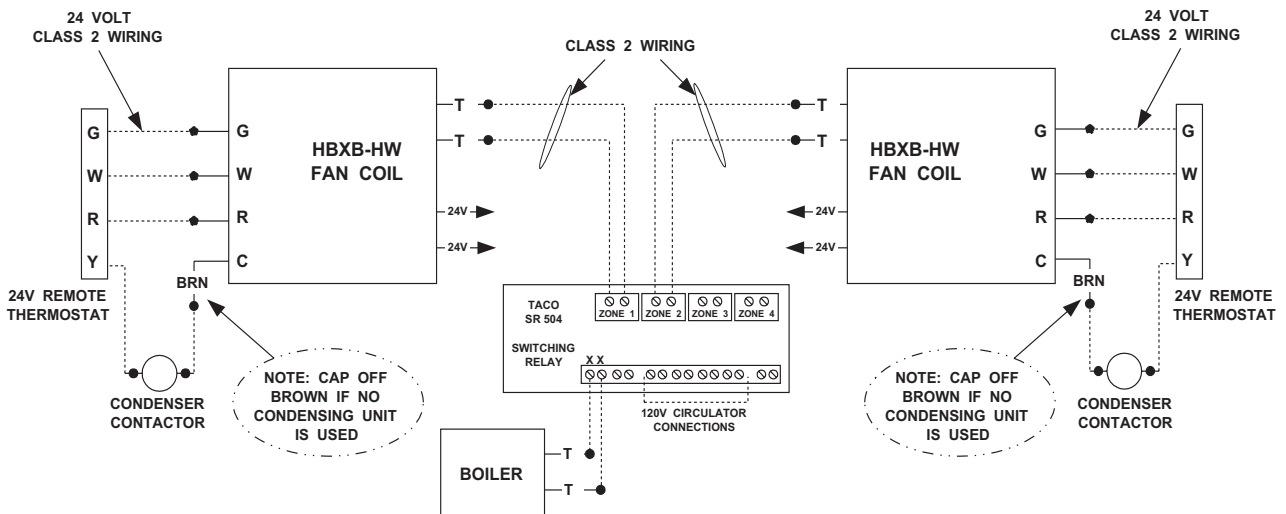
Zone Valves

Install a motorized valve with each air handler to control flow to that zone as required.

TYPICAL WIRING SCHEMATIC FOR MULTIPLE ZONE CONNECTIONS WITH ZONE VALVES



TYPICAL WIRING SCHEMATIC FOR MULTIPLE ZONE CONNECTIONS TO TACO SR-504/506 SWITCHING RELAY



Catalog No. HBXB-HW1117 (Replaces HBXB-HW0517)