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

HBXBX-HW Series

WITH ECM MOTOR

AquaTherm® by First Co.

Hydronic Air Handler

Without Pump

Cooling or Heat Pump / HW Heat

1.5 - 5 Tons

Up to 131,700 BTUH Heating

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

HBXBX-HW Series

The **HBXBX-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.

All **HBXBX-HW** air handlers include a standard **ECM** motor. These motors offer the efficiency of variable speed type **ECM** motors, but at a considerably lower cost.

Boiler applications: The **HBXBX-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 **HBXBX-HW** air handler.

Cooling efficiencies are up to **16 SEER**, depending on the outdoor condensing unit or heat pump model.

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

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* **AHRI.org**.

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-pro-cessor 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)
- **High efficiency standard ECM motor**
- 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

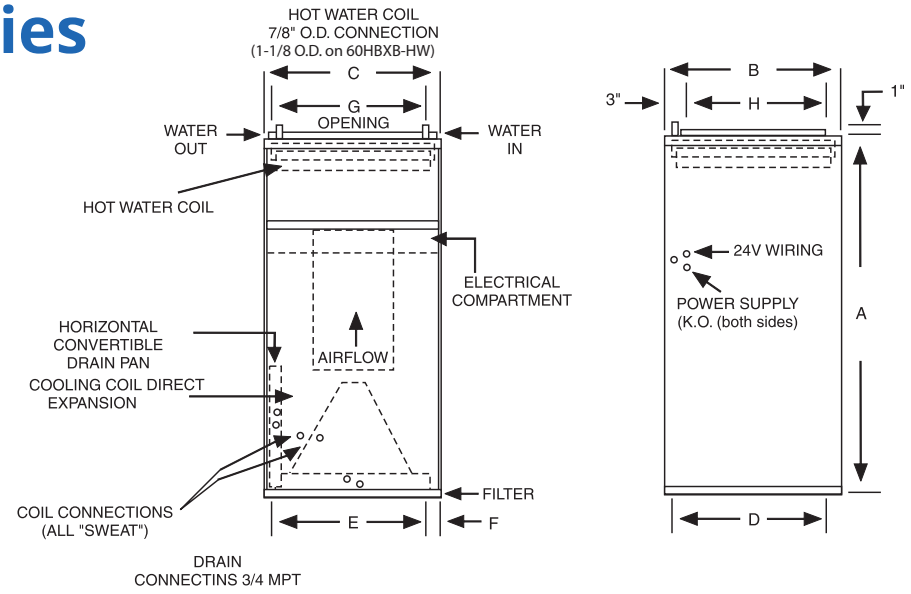
OPTIONAL ACCESSORIES:

- 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**)

HBXBX-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 MED. MED. LOW LOW	810 680 530 350	780 655 505 325	715 600 460 270	650 545 415 220	580 490 360 160	500 420 295 ---
24HBXB-HW	1/5 - 5.1	6.38	15	HIGH MED. LOW	950 860 780	920 835 755	855 785 705	790 720 650	720 650 590	645 580 510
30HBXB-HW	1/5 - 5.1	6.38	15	HIGH MED. LOW	1120 850 680	1095 840 670	1045 810 655	995 780 625	940 740 585	880 690 510
36HBXB-HW	1/2 - 8.5	10.63	15	HIGH MED. LOW	1340 1290 1200	1310 1260 1170	1250 1200 1120	1190 1140 1070	1120 1080 1010	1050 1000 940
48HBXB-HW	3/4 - 10.7	13.38	15	HIGH MED. LOW	1810 1570 1280	1780 1550 1260	1720 1510 1220	1660 1460 1180	1590 1400 1130	1530 1340 1050
60HBXB-HW	1 - 11.5	14.38	15	HIGH MED. LOW	2160 1865 1560	2125 1840 1540	2055 1785 1490	1980 1710 1435	1895 1620 1365	1810 1525 1260

NOTES:
1. All models are approved for installation with 0" clearance to combustible materials.
2. 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

RECOGNIZED COMPONENT
SANITATION LISTED
Intertek

NSF/ANSI 169 : 2016

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	
R22	**FITS**
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:
1. Above expansion valve kits are approved for both cooling only (non heat pump) and heat pump applications.
2. Valves are non-bleed type. Field added. Hard start kit may be required.
3. Valves have screw-on connections.

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

HBXBX-HW Series

MODEL NUMBERS

MODEL SIZE (BTU)	FACTORY INSTALLED TXV MODEL (PISTON)	FACTORY INSTALLED TXV 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 **AHRI.org**.

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

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

PERFORMANCE DATA

UNIT MODEL	NOM. COOLING BTUH	MOTOR SPEED CONN.	CFM @ .3 ESP	P.D. (FT. WTR.)	BTUH (1000) AT ENTERING WATER TEMPERATURE							
					120°F	GPM	140°F	GPM	160°F	GPM	180°F	GPM
18HBXB-HW	18,000	HIGH	650	2.0 1.1 0.5	18.0 17.2 15.9	1.8 1.7 1.6	25.2 24.1 22.3	2.5 2.4 2.2	32.4 31.0 28.7	3.2 3.1 2.9	39.6 37.9 35.1	4.0 3.8 3.5
		MED.	550	2.0 1.1 0.5	16.3 15.7 14.6	1.6 1.6 1.5	22.9 22.0 20.5	2.3 2.2 2.1	29.4 28.2 26.3	2.9 2.8 2.6	35.9 34.5 32.2	3.6 3.5 3.2
		MED. LOW	420	2.0 1.1 0.5	14.0 13.5 12.7	1.4 1.4 1.3	19.6 18.9 17.8	2.0 1.9 1.8	25.2 24.3 22.9	2.5 2.4 2.3	30.8 29.7 27.9	3.1 3.0 2.8
24HBXB-HW	24,000	HIGH	800	2.0 1.1 0.5	20.3 19.4 17.9	2.0 1.9 1.8	28.5 27.1 25.0	2.9 2.7 2.5	36.6 34.9 32.2	3.7 3.5 3.2	44.7 42.7 39.3	4.5 4.3 3.9
		MED.	725	2.0 1.1 0.5	19.2 18.4 17.0	1.9 1.8 1.7	26.9 25.7 23.8	2.7 2.6 2.4	34.6 33.1 30.6	3.5 3.3 3.1	42.3 40.4 37.4	4.2 4.0 3.7
		LOW	650	2.0 1.1 0.5	18.0 17.2 15.9	1.8 1.7 1.6	25.2 24.1 22.3	2.5 2.4 2.2	32.4 31.0 28.7	3.2 3.1 2.9	39.6 37.9 35.1	4.0 3.8 3.5
30HBXB-HW	30,000	HIGH	1000	7.5 3.6 1.0	25.9 24.4 21.1	2.6 2.4 2.1	36.3 34.2 29.6	3.6 3.4 3.0	46.7 44.0 38.0	4.7 4.4 3.8	57.0 53.8 46.5	5.7 5.4 4.7
		MED.	780	7.5 3.6 1.0	22.4 21.2 18.5	2.2 2.1 1.9	31.3 29.7 26.0	3.1 3.0 2.6	40.3 38.2 33.4	4.0 3.8 3.3	49.2 46.6 40.8	4.9 4.7 4.1
		LOW	625	7.5 3.6 1.0	19.6 18.7 16.6	2.0 1.9 1.7	27.5 26.2 23.3	2.8 2.6 2.3	35.3 33.7 29.9	3.5 3.4 3.0	43.1 41.1 36.5	4.3 4.1 3.7
36HBXB-HW	36,000	HIGH	1200	7.5 3.6 1.0	28.8 27.0 23.2	2.9 2.7 2.3	40.3 37.9 32.4	4.0 3.8 3.2	51.8 48.7 41.7	5.2 4.9 4.2	63.3 59.5 50.9	6.3 6.0 5.1
		MED.	1140	7.5 3.6 1.0	28.0 26.3 22.6	2.8 2.6 2.3	39.2 36.9 31.7	3.9 3.7 3.2	50.4 47.4 40.8	5.0 4.7 4.1	61.5 57.9 49.8	6.2 5.8 5.0
		LOW	1070	7.5 3.6 1.0	27.0 25.5 22.0	2.7 2.6 2.2	37.8 35.7 30.8	3.8 3.6 3.1	48.6 45.8 39.6	4.9 4.6 4.0	59.4 56.0 48.4	5.9 5.6 4.8
48HBXB-HW	48,000	HIGH	1660	3.8 2.1 0.8	48.2 45.5 40.7	4.8 4.6 4.1	67.5 63.7 57.1	6.8 6.4 5.7	86.8 81.9 73.4	8.7 8.2 7.3	106.1 100.1 89.7	10.6 10.0 9.0
		MED.	1460	3.8 2.1 0.8	44.7 42.3 38.0	4.5 4.2 3.8	62.6 59.2 59.3	6.3 5.9 5.9	80.5 76.1 68.5	8.1 7.6 6.9	98.3 93.0 83.7	9.8 9.3 8.4
		LOW	1180	3.8 2.1 0.8	39.1 37.1 33.7	3.9 3.7 3.4	54.8 52.0 47.2	5.5 5.2 4.7	70.4 66.9 60.7	7.0 6.7 6.1	86.1 81.7 74.2	8.6 8.2 7.4
60HBXB-HW	60,000	HIGH	1980	5.1 3.3 1.9	58.5 56.1 52.5	5.9 5.6 5.3	81.9 78.5 73.5	8.2 7.9 7.4	105.3 100.9 94.5	10.5 10.1 9.5	128.6 123.4 115.5	12.9 12.3 11.6
		MED.	1710	5.1 3.3 1.9	53.6 51.6 48.5	5.4 5.1 4.9	75.1 72.2 68.0	7.5 7.2 6.8	96.5 92.8 87.4	9.7 9.3 7.4	117.9 113.5 106.8	11.8 11.4 10.7
		LOW	1430	5.1 3.3 1.9	47.9 46.1 43.6	4.8 4.6 4.4	67.0 64.6 61.0	6.7 6.5 6.1	86.2 83.1 78.5	8.6 8.3 7.9	105.3 101.5 95.9	10.5 10.2 9.6

NOTES:
(1) Heat BTU is at 65° Entering Air Temperature.
(2) Based on 20°F Delta-T. Velocity not to exceed 4ft./sec.
(3) Units are shipped with motors connected to high speed for cooling and medium speed for heating.
(4) 190° EWT would increase the 180° EWT heating capacities by 9.1%. 200° EWT would increase the 180° EWT heating capacities by 18.2%.
(5) See "USM" data sheet for additional coil information

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.**

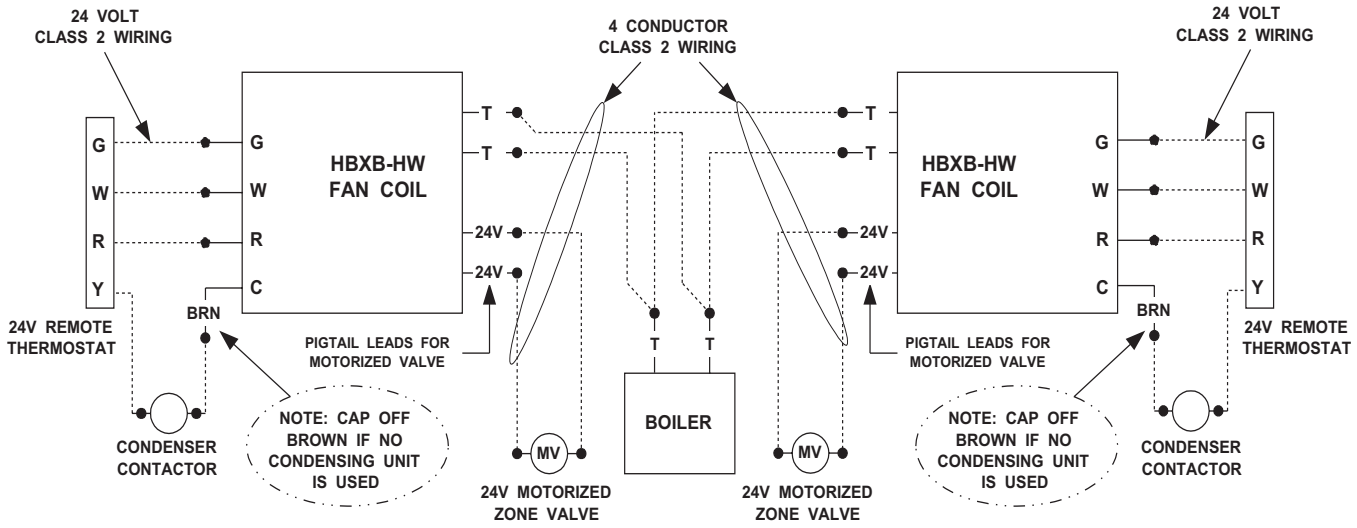
APPLICATION GUIDELINES
FOR BOILERS

ZONE VALVES

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

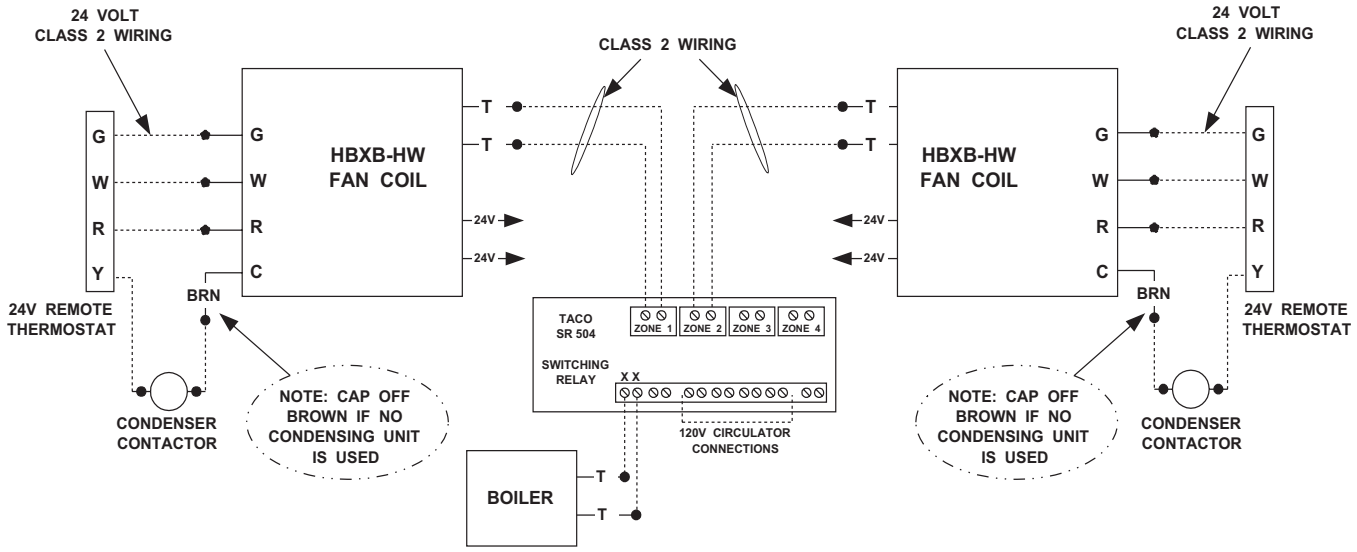
TYPICAL WIRING SCHEMATIC

FOR MULTIPLE ZONE CONNECTIONS WITH ZONE VALVES



TYPICAL WIRING SCHEMATIC

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



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