

NEW-WITH ECM MOTOR!!



HBXBX-HW Series

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



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 15 SEER, depending on the outdoor unit. 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.

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

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.
- **High efficiency standard ECM motor**
- 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 60HBXBX-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: (see p.2)

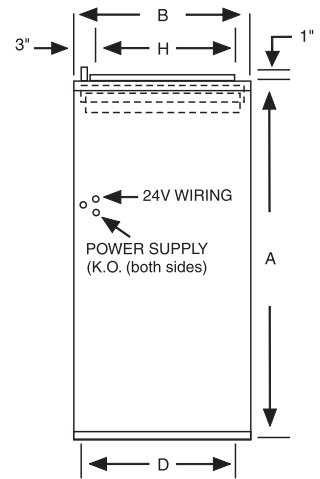
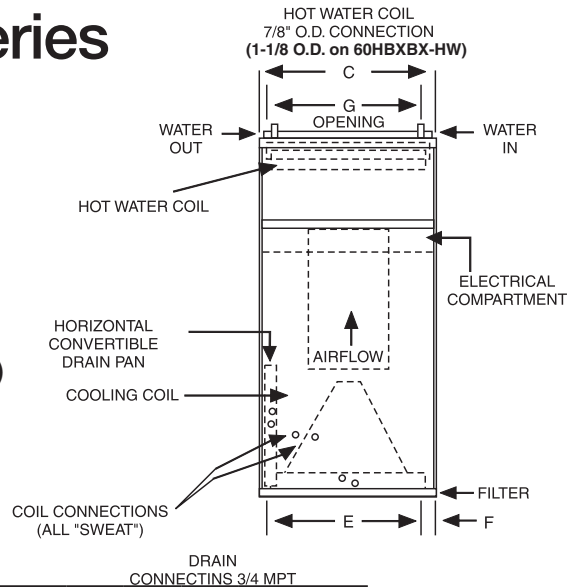
- **Freeze Protector**- Reduces the possibility of the water coil freezing by switching the unit to the heating mode if the water temperature is nearing a freezing condition.
- **High capacity Flow Control Module** for Tankless Water Heater applications (#940-2CV)

HBXBX-HW Series

DX COOLING
HW HEATING



(See P.4 for Model Numbers)



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

BLOWER DATA							UPFLOW / HORIZONTAL ONLY					
UNIT MODEL	MOTOR HP-AMPS (120V)	BHP	NOMINAL AMPS	MIN. CKT. AMPACITY	MAX. CKT. PROTECTION	SPEED TAPS	CFM vs. EXTERNAL STATIC PRESSURE					
							0.05	0.10	0.20	0.30	0.40	0.50
18HBXBX-HW	1/3 - 4.8	0.33	3.2	5	15	3	970	940	870	800	730	630
		0.18	2.1			2	770	750	700	660	620	580
		0.13	1.4			1	640	620	580	530	480	430
24HBXBX-HW	1/3 - 4.8	0.33	3.2	5	15	3	930	900	830	760	690	600
		0.18	2.1			2	740	720	690	650	610	560
		0.13	1.4			1	620	600	560	520	480	430
30HBXBX-HW	1/2 - 6.8	0.50	4.8	10	15	3	1250	1230	1170	1110	1050	990
		0.34	3.5			2	1090	1070	1040	1010	980	950
		0.27	2.5			1	960	940	900	860	820	780
36HBXBX-HW	1/2 - 6.8	0.50	4.8	10	15	3	1280	1250	1190	1130	1070	1010
		0.34	3.5			2	1110	1090	1050	1010	970	930
		0.27	2.5			1	970	950	900	850	800	760
48HBXBX-HW	1 - 10.9	1.00	8.5	15	15	3	1900	1870	1800	1730	1660	1590
		0.66	6.8			2	1560	1540	1500	1460	1420	1380
		0.47	4.1			1	1300	1270	1220	1170	1120	1070
60HBXBX-HW	1 - 10.9	1.00	8.7	15	15	3	---	2190	2130	2070	2010	1950
		0.67	6.7			2	---	1780	1740	1700	1650	1590
		0.52	4.7			1	---	1550	1490	1430	1370	1310



NSF/ANSI
169:2016

NOTES:

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

ACCESSORIES (field installed)

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

NOTE:

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

FREEZE PROTECTOR	
KIT NUMBER	FOR
941-1	18 - 60HBXBX-HW



Model Numbers:

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

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

PERFORMANCE DATA										
UNIT MODEL	NOM. COOLING BTUH	COIL # (4)	NOM. CFM	P.D. (FT. WTR.)	BTUH (1000) AT ENTERING WATER TEMPERATURE Delta-T 20°F & GPM					
					140°F	GPM	160°F	GPM	180°F	GPM
18HBXBH-HW	18,000	USM318AP	650	1.13	24.6	2.5	31.6	3.2	38.7	3.9
				0.51	22.7	2.3	29.2	2.9	35.7	3.6
				0.13	17.0	1.7	21.9	2.2	26.8	2.7
			550	1.13	22.4	2.2	28.7	2.9	35.1	3.5
				0.51	20.7	2.1	26.6	2.7	32.5	3.3
				0.13	15.8	1.6	20.4	2.0	24.9	2.5
24HBXBH-HW	24,000	USM424AP	420	1.13	18.9	1.9	24.3	2.4	29.7	3.0
				0.51	17.8	1.8	22.8	2.3	27.8	2.8
				0.13	13.8	1.4	17.8	1.8	21.7	2.2
			800	1.13	27.7	2.8	35.6	3.6	43.5	4.4
				0.51	25.4	2.5	32.7	3.3	39.9	4.0
				0.13	19.0	1.9	24.5	2.5	29.9	3.0
30HBXBH-HW	30,000	USM330AP	725	1.13	26.3	2.6	33.8	3.4	41.3	4.1
				0.51	24.2	2.4	31.1	3.1	38.1	3.8
				0.13	18.3	1.8	23.5	2.4	28.8	2.9
			650	1.13	24.6	2.5	31.6	2.5	38.7	3.9
				0.51	22.7	2.3	29.2	2.3	35.7	3.6
				0.13	17.1	1.7	22.0	1.7	26.9	2.7
36HBXBH-HW	36,000	USM436AP	1000	7.55	37.5	3.8	48.2	3.8	58.9	5.9
				3.64	35.1	3.5	45.2	3.5	55.2	5.5
				1.04	30.0	3.0	38.6	3.0	47.2	4.7
			780	7.55	32.3	3.2	41.6	3.2	50.8	5.1
				3.64	30.5	3.1	39.2	3.1	47.9	4.8
				1.04	26.3	2.6	33.9	2.6	41.4	4.1
48HBXBH-HW	48,000	USM348AP	625	7.55	28.2	2.8	36.3	2.8	44.3	4.4
				3.64	26.7	2.7	34.3	2.7	40.9	4.1
				1.04	23.5	2.4	30.2	2.4	36.9	3.7
			1200	7.55	41.5	4.2	53.4	4.2	65.2	6.5
				3.64	38.7	3.9	49.8	3.9	60.8	6.1
				1.04	32.8	3.3	42.2	3.3	51.5	5.2
60HBXBH-HW	60,000	USM460BP	1140	7.55	40.3	4.0	51.8	4.0	63.4	6.3
				3.64	37.7	3.8	48.5	3.8	59.3	5.9
				1.04	32.1	3.2	41.3	3.2	50.5	5.1
			1070	7.55	39.0	3.9	50.1	3.9	61.3	6.1
				3.64	36.5	3.7	47.0	3.7	57.4	5.7
				1.04	31.3	3.1	40.2	3.1	49.1	4.9
48HBXBH-HW	48,000	USM348AP	1660	2.90	66.6	6.7	85.6	6.7	104.7	10.5
				1.40	61.7	6.2	79.4	6.2	97.0	9.7
				0.41	48.0	4.0	61.8	4.8	75.5	7.6
			1460	2.90	62.3	6.2	80.1	6.2	97.9	9.8
				1.40	57.4	5.7	73.8	5.7	90.2	9.0
				0.41	45.0	4.5	57.8	4.5	70.7	7.1
60HBXBH-HW	60,000	USM460BP	1180	2.90	54.5	5.5	70.1	5.5	85.7	8.6
				1.40	50.6	5.1	65.0	5.1	79.5	8.0
				0.41	40.1	4.0	51.6	4.0	63.0	6.3
			1980	5.15	83.8	8.4	107.8	8.4	131.7	13.2
				3.33	80.0	8.0	102.9	8.0	125.8	12.6
				1.86	74.5	7.5	95.8	7.5	117.1	11.7
60HBXBH-HW	60,000	USM460BP	1710	5.15	76.8	7.7	98.7	7.7	120.6	12.1
				3.33	73.5	7.4	94.5	7.4	115.5	11.6
				1.86	68.9	6.9	88.5	6.9	108.2	10.8
			1430	5.15	68.5	6.9	88.1	6.9	107.7	10.8
				3.33	65.8	6.6	84.6	6.6	103.4	10.3
				1.86	61.8	6.2	79.5	6.2	97.1	9.7

NOTES:

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

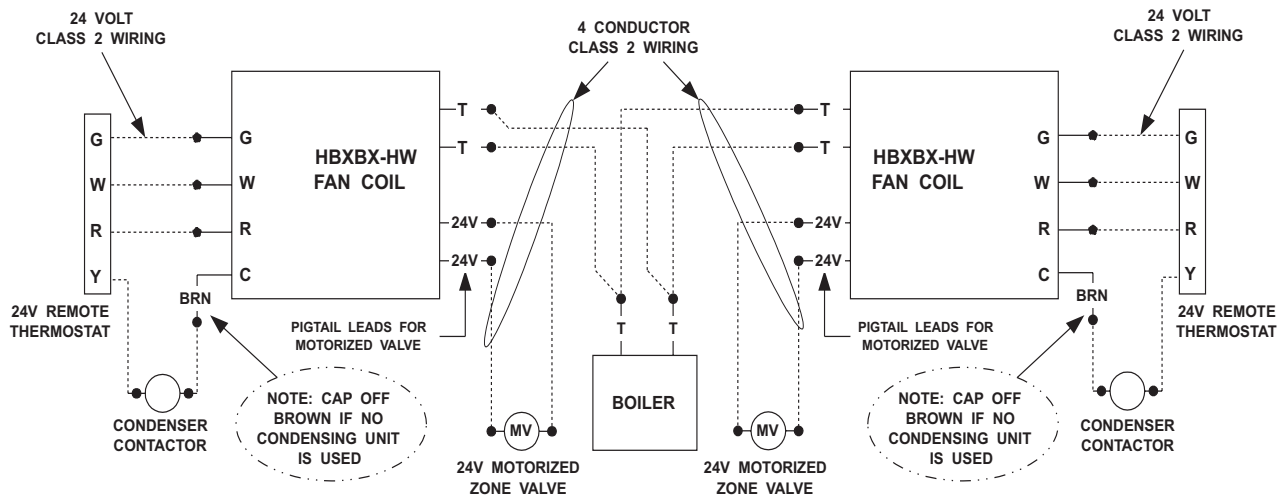
In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

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

