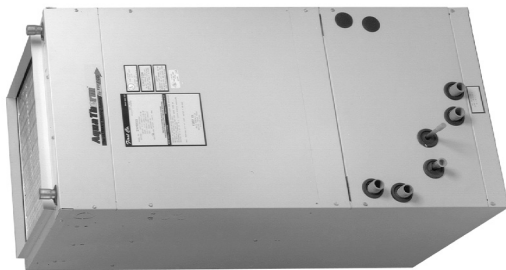




HBXB-HW Series

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:

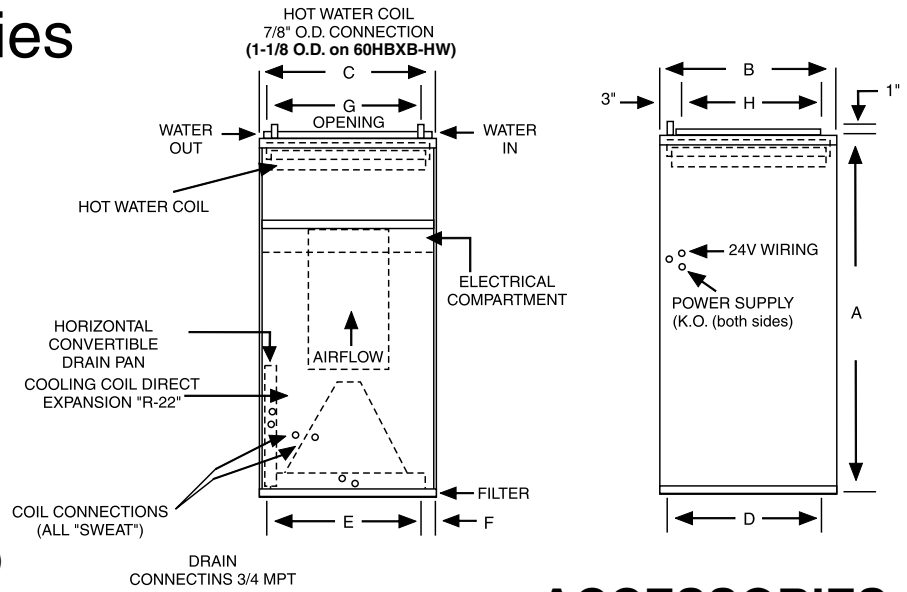
- **Multi-function micro-processor circuit board** with these standard features:
 - **Blower Start Relay** - Eliminates field installed boiler relay, allowing direct wiring from the boiler to the air handler
 - **Blower-on fan delay** - (heating mode) - preheats the HW coil for 45 seconds.
 - **Blower-off 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

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**)
- **Counterflow conversion kits**

HBXB-HW Series

**DX COOLING
BOILER HEATING**



(See P.4 for Model Numbers)

BLOWER DATA					UPFLOW / HORIZONTAL ONLY					DOWNFLOW 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	0.05	0.10	0.20	0.30	0.35																																	
18HBXB-HW	1/5 - 2.8	3.5	15	HIGH MED. LOW	810	780	715	650	580	500	710	690	630	570	540	680	655	600	545	490	420	640	620	575	520	490	530	505	460	415	360	295	480	460	420	380	350	350	325	270	220	160	---	330	310	260	220	200
					950	920	855	790	720	645	760	730	680	620	590	550	860	835	785	720	650	580	720	690	640	590	525	780	755	705	650	590	510	680	655	600	550	525										
					1120	1095	1045	995	940	880	1080	1060	1010	950	920	850	840	810	780	740	690	885	860	830	800	770	680	670	655	625	585	510	730	720	690	660	640											
24HBXB-HW	1/5 - 5.1	6.38	15	HIGH MED. LOW	1340	1310	1250	1190	1120	1050	1090	1070	1010	950	925	1290	1260	1200	1140	1080	1000	1060	1030	980	920	890	1200	1170	1120	1070	1010	940	1020	990	940	890	860											
					1810	1780	1720	1660	1590	1530	1510	1480	1400	1340	1270	1240	1190	1150	1120	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120	1280	1260	1220	1180	1130	1050	1005	980	930	890	860							
					2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
30HBXB-HW	1/5 - 5.1	6.38	15	HIGH MED. LOW	1810	1780	1720	1660	1590	1530	1510	1480	1430	1380	1350	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120	1280	1260	1220	1180	1130	1050	1005	980	930	890	860											
					2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
					1810	1780	1720	1660	1590	1530	1510	1480	1430	1380	1350	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120	1280	1260	1220	1180	1130	1050	1005	980	930	890	860											
36HBXB-HW	1/2 - 8.5	10.63	15	HIGH MED. LOW	2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
					1810	1780	1720	1660	1590	1530	1510	1480	1430	1380	1350	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120	1280	1260	1220	1180	1130	1050	1005	980	930	890	860											
					2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
48HBXB-HW	3/4 - 10.7	13.38	15	HIGH MED. LOW	2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
					1810	1780	1720	1660	1590	1530	1510	1480	1430	1380	1350	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120	1280	1260	1220	1180	1130	1050	1005	980	930	890	860											
					2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
60HBXB-HW	1 - 11.5	14.38	15	HIGH MED. LOW	2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													
					1810	1780	1720	1660	1590	1530	1510	1480	1430	1380	1350	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120	1280	1260	1220	1180	1130	1050	1005	980	930	890	860											
					2160	2125	2055	1980	1895	1810	60HBXB-HW is not approved for downflow conversion	2125	2055	1980	1895	1810	1620	1525	1260	1865	1840	1785	1710	1620	1525	1260	1150	1120	860	1560	1540	1490	1435	1365	1260													

NOTES:

- All models are approved for installation with 0" clearance to combustible materials.
- For downflow applications, select air handler 1/2 ton larger than the outdoor unit in order to achieve nominal airflow.
- 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 MODULES	
PART NUMBER	FOR
940-3CV	18 - 48HBXB-HW
940-2CV	60HBXB-HW

NOTE:

Flow Control Modules are required when connecting to individual gas water heaters.

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
R410a	
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.

COUNTERFLOW KITS	
KIT NUMBER	FOR
919-11	18, 24HBXB-HW
919-12	30, 36HBXB-HW
919-13	48HBXB-HW

NOTES:

- Counterflow conversion **not** recommended where the air handler is installed above a finished ceiling.
- No kit available for 60HBXB-HW. This model is not approved for counterflow installation.

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		
						140°F	160°F	180°F
18HBXB-HW	18,000	HIGH	650	3	1.13	24.6	31.6	38.7
					0.51	22.7	29.2	35.7
					0.13	17.0	21.9	26.8
		MED.	550	3	1.13	22.4	28.7	35.1
					0.51	20.7	26.6	32.5
					0.13	15.8	20.4	24.9
		MED. LOW	420	3	1.13	18.9	24.3	29.7
					0.51	17.8	22.8	27.8
					0.13	13.8	17.8	21.7
24HBXB-HW	24,000	HIGH	800	3	1.13	27.7	35.6	43.5
					0.51	25.4	32.7	39.9
					0.13	19.0	24.5	29.9
		MED.	725	3	1.13	26.3	33.8	41.3
					0.51	24.2	31.1	38.1
					0.13	18.3	23.5	28.8
		LOW	650	3	1.13	24.6	31.6	38.7
					0.51	22.7	29.2	35.7
					0.13	17.1	22.0	26.9
30HBXB-HW	30,000	HIGH	1000	6	7.55	37.5	48.2	58.9
					3.64	35.1	45.2	55.2
					1.04	30.0	38.6	47.2
		MED.	780	6	7.55	32.3	41.6	50.8
					3.64	30.5	39.2	47.9
					1.04	26.3	33.9	41.4
		LOW	625	6	7.55	28.2	36.3	44.3
					3.64	26.7	34.3	40.9
					1.04	23.5	30.2	36.9
36HBXB-HW	36,000	HIGH	1200	6	7.55	41.5	53.4	65.2
					3.64	38.7	49.8	60.8
					1.04	32.8	42.2	51.5
		MED.	1140	6	7.55	40.3	51.8	63.4
					3.64	37.7	48.5	59.3
					1.04	32.1	41.3	50.5
		LOW	1070	6	7.55	39.0	50.1	61.3
					3.64	36.5	47.0	57.4
					1.04	31.3	40.2	49.1
48HBXB-HW	48,000	HIGH	1660	6	2.90	66.6	85.6	104.7
					1.40	61.7	79.4	97.0
					0.41	48.0	61.8	75.5
		MED.	1460	6	2.90	62.3	80.1	97.9
					1.40	57.4	73.8	90.2
					0.41	45.0	57.8	70.7
		LOW	1180	6	2.90	54.5	70.1	85.7
					1.40	50.6	65.0	79.5
					0.41	40.1	51.6	63.0
60HBXB-HW	60,000	HIGH	1980	9	5.15	83.8	107.8	131.7
					3.33	80.0	102.9	125.8
					1.86	74.5	95.8	117.1
		MED.	1710	9	5.15	76.8	98.7	120.6
					3.33	73.5	94.5	115.5
					1.86	68.9	88.5	108.2
		LOW	1430	9	5.15	68.5	88.1	107.7
					3.33	65.8	84.6	103.4
					1.86	61.8	79.5	97.1

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.
- (3) 190° EWT would increase the 180° EWT heating capacities by 9.1%. 200° EWT would increase the 180° EWT heating capacities by 18.2%.

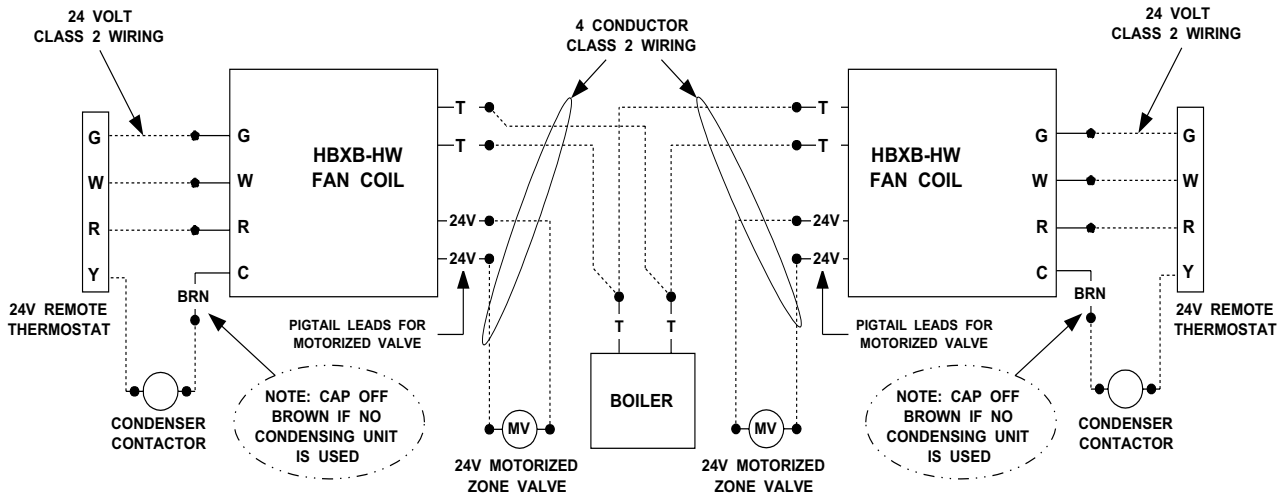
In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

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

