



FIRST CO.  
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# HBXB-HW Series



## Hydronic Air Handler *Without Pump*

Cooling or Heat Pump / HW Heat

1.5 - 5 Tons

Up to 131,700 BTUH Heating



# HBXB-HW Series

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 appropriate pump for the pressure drop.

Cooling efficiencies are up to 15 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 180° 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](http://www.firstco.com) or contact the factory.*



## STANDARD FEATURES:

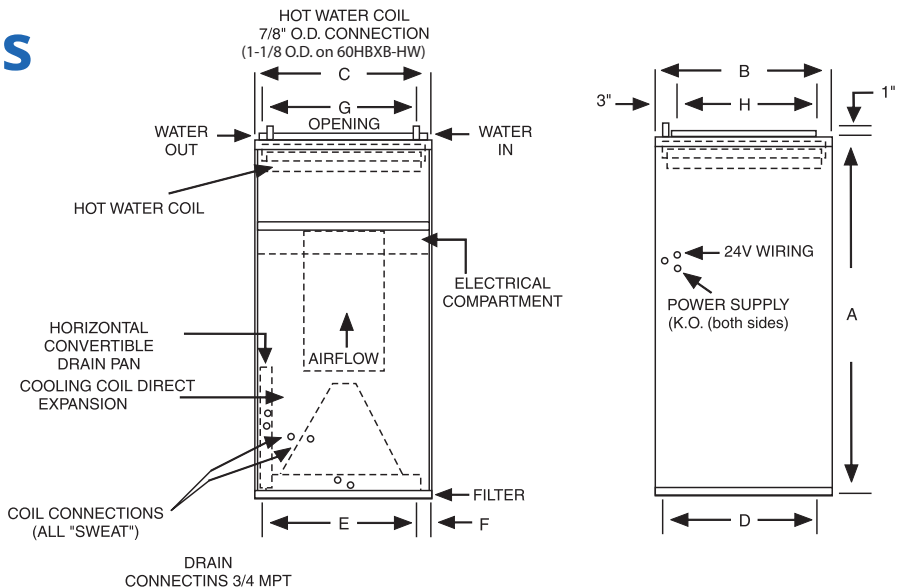
- **Multi-function micro-processor circuit board** with these standard features:
  - **Blower start relay** - Eliminates field installed boiler relay, allowing direct wiring from the boiler to the air handler
  - **Blower-on fan delay** - (heating mode) - preheats the HW coil for 45 seconds.
  - **Blower-off 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
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
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
36HBXB-HW	1/2 - 8.5	10.63	15	HIGH	1340	1310	1250	1190	1120	1050
				MED.	1290	1260	1200	1140	1080	1000
				LOW	1200	1170	1120	1070	1010	940
48HBXB-HW	3/4 - 10.7	13.38	15	HIGH	1810	1780	1720	1660	1590	1530
				MED.	1570	1550	1510	1460	1400	1340
				LOW	1280	1260	1220	1180	1130	1050
60HBXB-HW	1 - 11.5	14.38	15	HIGH	2160	2125	2055	1980	1895	1810
				MED.	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



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	FITS
<b>R22</b>	
9EVR22-4	18/24HBXB-HW
9EVR22-5	30/36HBXB-HW
9EVR22-6	48/60HBXB-HW
<b>R-410A</b>	
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.

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



# HBXB-HW Series

## MODEL NUMBERS

MODEL SIZE (BTU)	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](http://www.firstco.com) or contact the factory for assistance.

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

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).

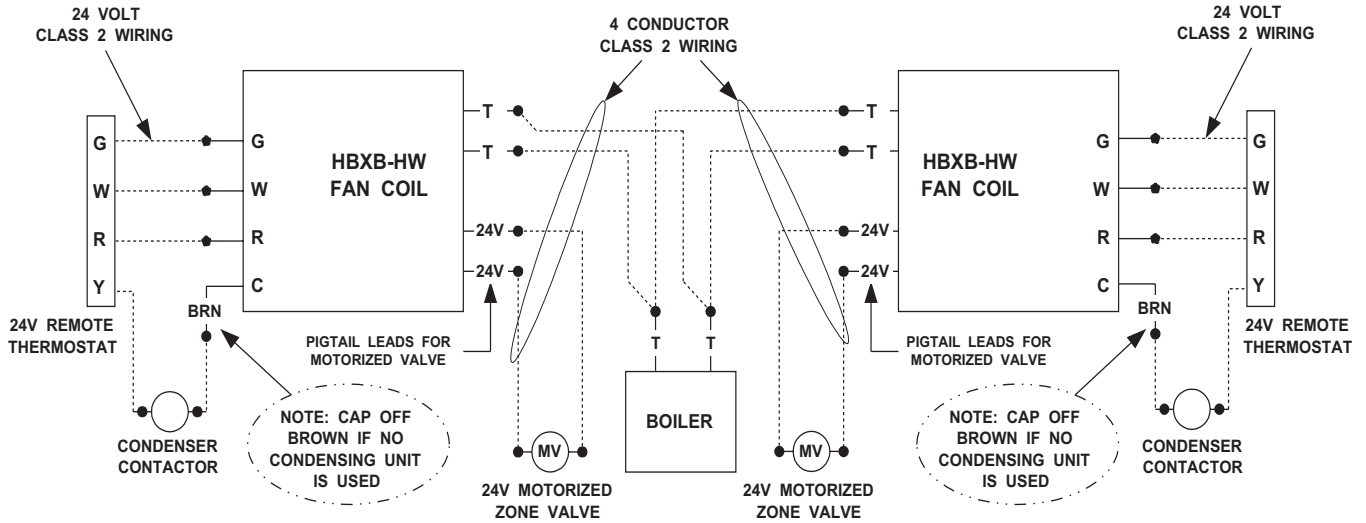
- NOTES:
- (1) Heat BTU is at 65° Entering Air Temperature.
  - (2) Based on 20°F Delta-T. Velocity not to exceed 4ft./sec.
  - (3) Units are shipped with motors connected to high speed for cooling and medium speed for heating.

# 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

