



HCXR

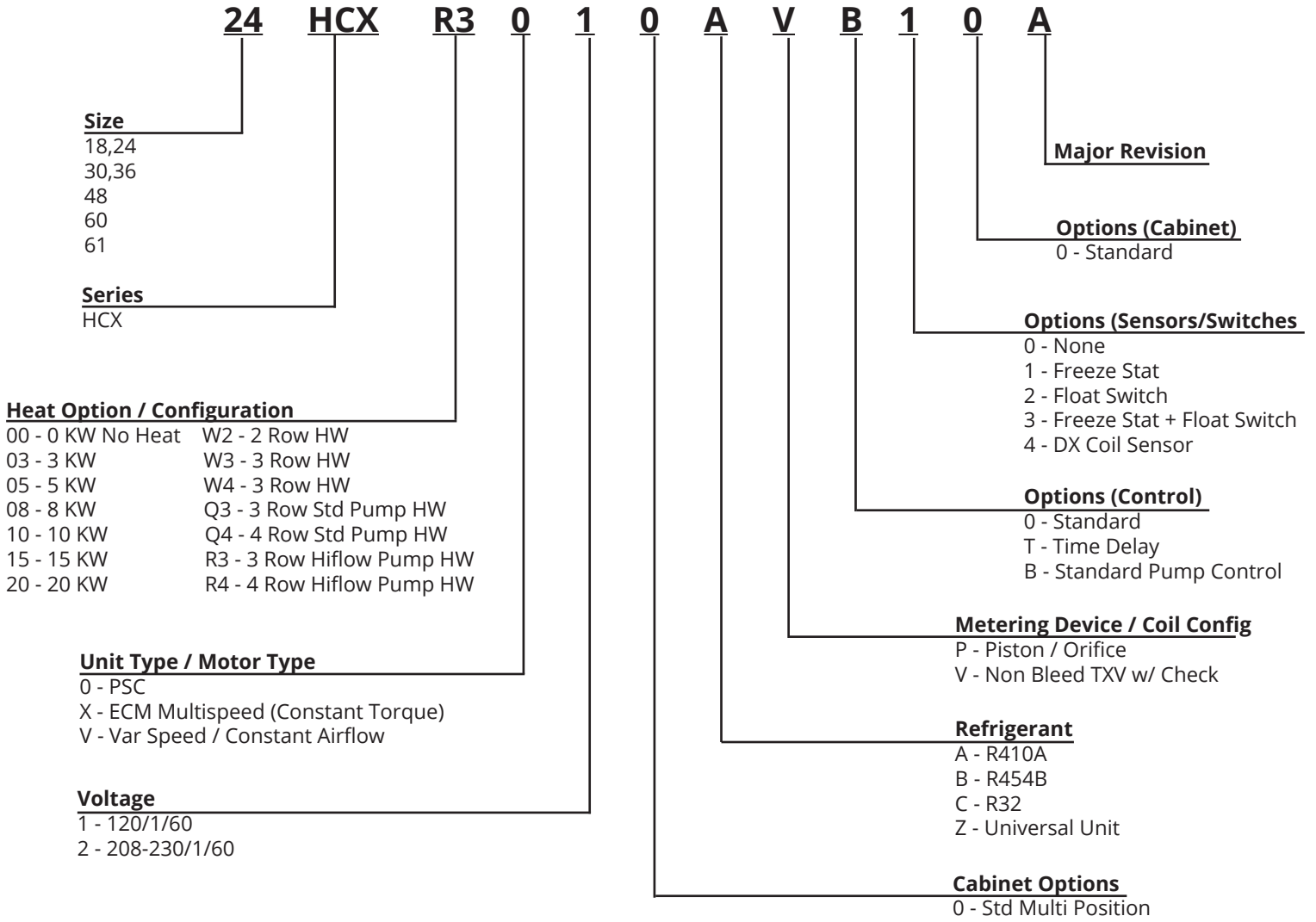
Air Handler



- Vertical/Horizontal
- Combo Air-Handler
- Cooling Hot Water Heating
- 1-1/2 - 4 Tons Cooling
- Up to 85,000 BTUH Heating



Nomenclature



HCXR

Compared to other heating systems, combo heaters offer high efficiency, greater installation flexibility, cost less to install, and are much easier to service.

The **HCXR** Series incorporates a **Multi-function Micro-processor** that not only reduces the number of components but adds a number of standard system functions that would not normally be available, such as an **automatic pump timer**, and **blower delay**, just to name a few.

The **HCXR Air Handler** is the only product available with these high quality features.

Cooling efficiencies up to **15 SEER2, depending on the outdoor unit selected.**

STANDARD FEATURES

Heating Cycle

- **Automatic pump timer:** The pump operates for sixty seconds every six hours in order to purge the water from the hot water coil and piping (the pump timer cycle is skipped while the compressor is operating). These fan coils are compatible with any source of hot water that doesn't exceed 180°F and is NSF/ANSI certified for use with domestic water.
- **Blower-on delay:** On a call for heat, the hot water coil is preheated for 45 seconds before the blower energizes.
- **Blower-off delay:** Blower continues to operate for 20 seconds after thermostat is satisfied, extracting more heat from the heating coil and increasing heating performance.

Cooling Cycle

- **Blower-off delay:** Blower continues to operate for 45 seconds after thermostat is satisfied, extracting more cooling from the cooling coil and maximizing cooling efficiency.

ADDITIONAL FEATURES

- Built-in circulating pump, air purge valve, and easy access hot water check valve
- Blower door safety switch
- Compatible with all major brands of split condensing units
- Slide out hot water coil assembly for easier service
- Fully insulated galvanized steel cabinet
- High efficiency copper tube/aluminum fin heating and cooling coils
- Primary and secondary drain connections on cooling coil
- Factory installed filter

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.ahridirectory.org

HCXR

Efficiency:

The **HCXR** series air handler is the latest state-of-the-art air handler for tankless hot water heating. Depending on the water heater efficiency and the condensing unit used, heating efficiency can exceed 90% and cooling efficiency can exceed 14.3 SEER2 (depending on the selected outdoor unit). Cooling coils have either piston type metering devices R410A TXV's and are circuited for cooling or heat pump operation.

Components:

Each air handler includes a high efficiency cooling coil, a separate hot water coil, circulating pump, air purge valve, anti-thermosyphon check valve, blower door safety switch, 120V blower motor, throw away filter, and 24V transformer.

Cabinets:

Cabinets are fully insulated and painted with an attractive, baked-on powder coating (light gray).

Installation:

No modification is required for vertical or horizontal (right-to-left) airflow. A horizontal drain pan is factory installed for right-to-left airflow and can be re-positioned within the cabinet to offer left-to-right airflow.

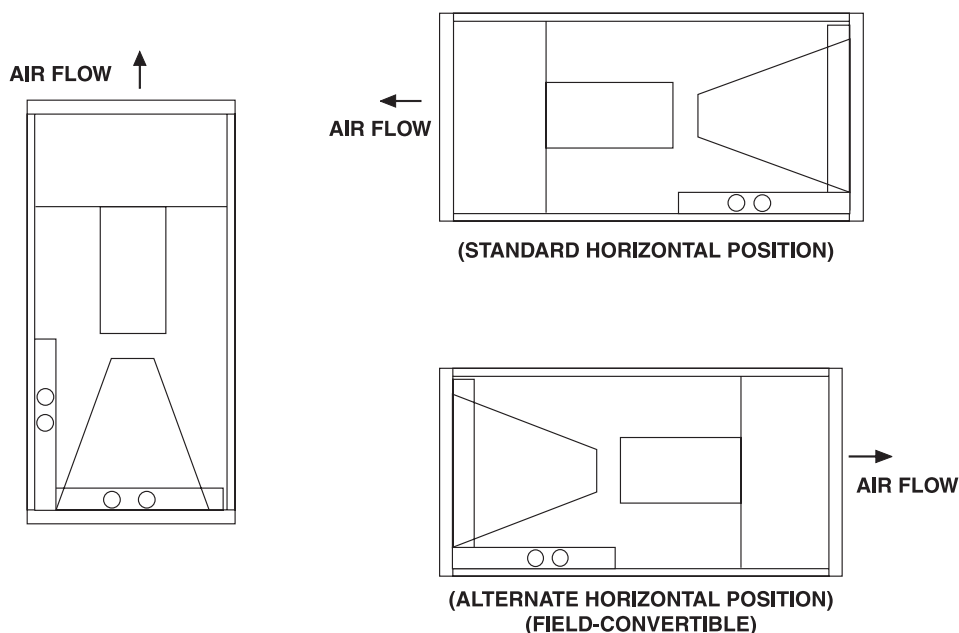
Operation:

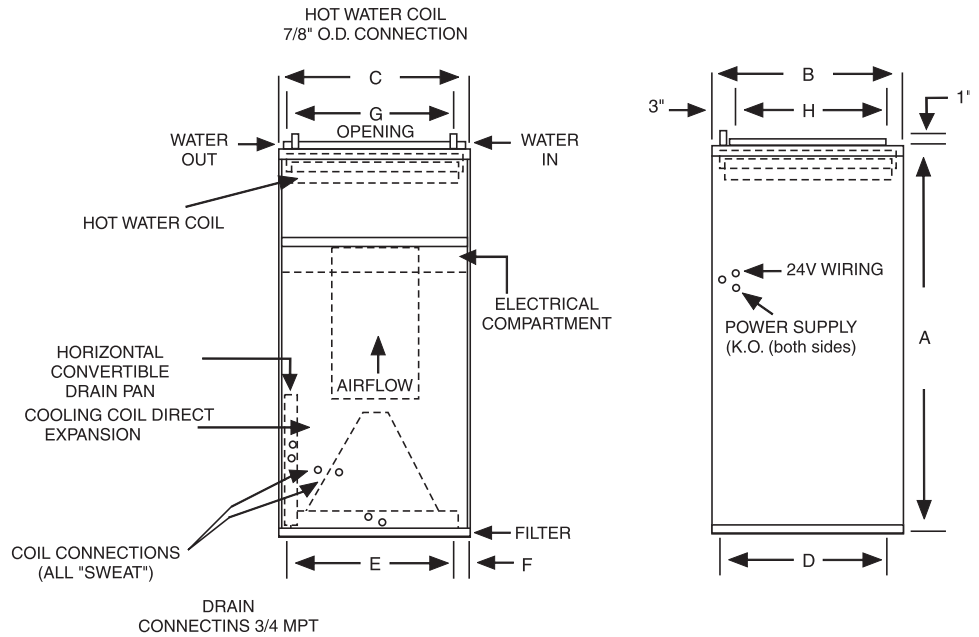
When space heating is needed, the wall thermostat energizes the circulating pump which circulates hot water from the water heater to the hot water coil in the air handler. As the blower motor forces cool return air from the home over the hot water coil, the air absorbs heat from the hot water. This warm air (105 to 110 degrees) is then circulated throughout the duct system and into the home. The water loses only about 15 degrees of temperature while it circulates through the coil and is then returned to the water heater to be reheated.

Accessories:

Accessories include TXV expansion valve kits, and freeze protector.

3-WAY AIRFLOW





ELECTRICAL DATA					
UNIT MODEL	MOTOR HP (120V)	AMPS		MIN. CIR. AMPACITY	MAX. HACR BREAKER
		MOTOR	PUMP		
18HCXR*0	1/5	2.8	0.84	5	15
24HCXR*0	1/5	5.1	0.84	8	15
30HCXR*0	1/5	5.1	0.84	8	15
36HCXR*0	1/2	8.5	0.84	12	15
48HCXR*0	3/4	10.7	0.84	15	15

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
18HCXR*0 24HCXR*0	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
30HCXR*0 36HCXR*0	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
48HCXR*0	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 x 25 x 1

PERFORMANCE DATA												
UNIT MODEL	NOMINAL COOLING BTUH	COIL # (2)	P.D. (FT. WTR.)	CFM	BTUH (1000) AT ENTERING WATER TEMPERATURE Delta -T 20°F & GPM							
					120°F		140°F		160°F		180°F	
					GPM	BTUH	GPM	BTUH	GPM	BTUH	GPM	BTUH
18HCXR*0	18,000	US-M318AP	4.0	650	19.7	2.0	27.6	2.8	35.5	3.6	43.4	4.3
24HCXR*0	24,000	US-M424AP	4.0	800	22.2	2.2	31.1	3.1	40.0	4.0	48.9	4.9
30HCXR*0	30,000	US-M330AP	4.6	1000	26.4	2.6	37.0	3.7	47.6	4.8	58.1	5.8
36HCXR*0	36,000	US-M436A	4.6	1200	28.9	2.9	40.5	4.1	52.0	5.2	63.6	6.4
48HCXR*0	42,000/ 48,000	US-M348AP	4.1	1400 1600	36.1	3.6	50.6	5.1	65.0	6.5	79.5	8.0
					38.7	3.9	54.3	5.4	69.8	7.0	85.3	8.5

COIL CONNECTIONS	LIQUID	SUCTION
18/24	3/8	5/8
30/36	3/8	3/4
48	1/2	7/8

(See P.5 for Model Numbers)

(1) See "USM" data sheet for additional cooling coil information.

NOTES:

1. Heating output of fan coil will not exceed net output of water heater.
2. Approved for installation with 0" clearance to combustible materials.
3. Heat BTUH is at 70°F entering air temperature.
4. Based on 20°F Delta-T. Velocity not to exceed 4ft./sec.



WARNING AVERTISSEMENT ADVERTENCIA
Cancer and Reproductive Harm
Cancer et Troubles de l'appareil reproducteur
Cáncer y Daño Reproductivo
www.P65Warnings.ca.gov LBY0057

Data is subject to change. Please verify current information at www.firstco.com.

HCXR

BLOWER DATA			UPFLOW / HORIZONTAL ONLY						DOWNFLOW ONLY				
UNIT MODEL	MOTOR HP-AMP (120V)	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
18HCXR*0	1/5-2.8	HIGH	810	780	715	650	580	500	710	690	630	570	540
		MED. HIGH	680	655	600	545	490	420	640	620	575	520	490
		MED. LOW	530	505	460	415	360	295	480	460	420	380	350
		LOW	350	325	325	220	160	---	330	310	260	220	200
24HCXR*0	1/5-5.1	HIGH	950	920	855	790	720	645	760	730	680	620	590
		MED	860	835	785	720	650	580	720	690	640	590	550
		LOW	780	755	705	650	590	510	680	655	600	550	525
30HCXR*0	1/5-5.1	HIGH	1120	1095	1045	995	940	880	1080	1060	1010	950	920
		MED	850	840	810	780	740	590	885	860	830	800	770
		LOW	680	670	655	625	585	510	730	720	690	660	640
36HCXR*0	1/2-8.5	HIGH	1340	1310	1250	1190	1120	1050	1090	1070	1010	950	925
		MED	1290	1260	1200	1140	1080	1000	1060	1030	980	920	890
		LOW	1200	1170	1120	1070	1010	940	1020	990	940	890	860
48HCXR*0	3/4-10.7	HIGH	1810	1780	1720	1660	1590	1530	1510	1480	1430	1380	1350
		MED	1570	1550	1510	1460	1400	1340	1270	1240	1190	1150	1120
		LOW	1280	1260	1220	1180	1130	1050	1005	980	930	890	860

Model Numbers:

FACTORY INSTALLED TXV'S

MODEL SIZE (BTU)	MODEL (PISTON)	MODEL (R410A TXV)
18,000	18HCXR*0	18HCXR*0 w/R410A TXV
24,000	24HCXR*0	24HCXR*0 w/R410A TXV
30,000	30HCXR*0	30HCXR*0 w/R410A TXV
36,000	36HCXR*0	36HCXR*0 w/R410A TXV
48,000	48HCXR*0	48HCXR*0 w/R410A TXV

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

NOTE:

Expansion valve requirement depends on the selected outdoor unit.

Go to www.firstco.com or www.ahridirectory.org.

In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice.

ACCESSORIES

EXPANSION VALVE KITS (Field installed)	
PART NUMBER	FITS
R410A	
9EVR410-3	18/24HCXR*0
9EVR410-4	30/36HCXR*0
9EVR40-5	48HCXR*0

NOTES:

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

MISCELLANEOUS		
COMPONENT	DESCRIPTION	PART NUMBER
Freeze Protector	Energizes pump when coil temperature falls below 38°F	941-1
Thermostat	24V Heat/Cool	T334

NOTES:

- Freeze protector attaches to hot water coil and wires to low voltage (24V) circuit.



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