



HCXR (X)

*Hydronic Air Handler with Pump
for Tankless Water Heater Applications*



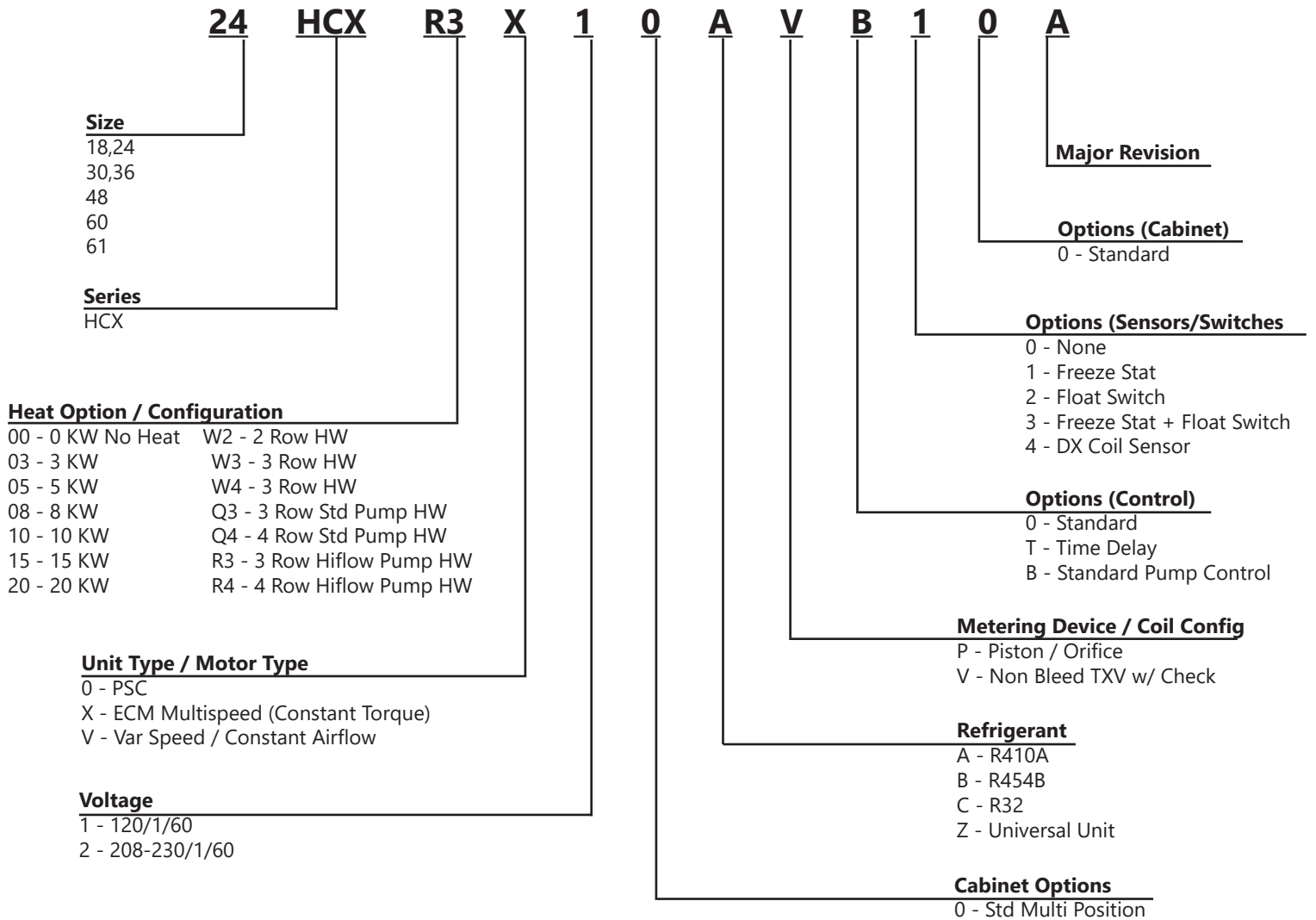
Cooling or Heat Pump / HW Heat

1.5 - 4 Tons

Up to 82,500 BTUH Heating



Nomenclature



HCXR (X) Series

COOLING or HEAT PUMP
HW HEATING

The HCXR (X) air handler is designed for use with today's high efficiency split-system condensing units and heat pumps. All HCXR (X) air handlers include a standard ECM motor. These motors offer the efficiency of variable speed type ECM motors, but at a considerably lower cost.

The HCXR (X) is a "Combo" air handler that converts a properly sized Tankless Water heater into a highly efficient space heating appliance that can heat your home in addition to providing domestic hot water. Compared to other heating systems, the HCXR (X) offers greater installation flexibility, costs less to install, and is less complicated and easier to service.

The HCXR (X) incorporates a multi-function micro-processor that not only reduces the number of components, but includes several system functions not found in other products, such as an automatic pump timer.

Cooling efficiencies are up to 16 SEER2, depending on the outdoor unit.

These fan coils are compatible with any source of hot water that does not exceed 180°F 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 contact ahridirectory.org.

HCXR (X) Series

COOLING or HEAT PUMP
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STANDARD FEATURES:

Multi-function micro-processor circuit board with these standard features:

- 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).

SPECIAL FEATURES:

- High efficiency standard ECM motor
- 120V motor, 24V controls
- Factory or field installed R-410A TXV (cooling or heat pump operation) (non-bleed type)
- Blower door shut-off switch
- Hot water coil assembly includes a circulating pump, easy access anti-siphon check valve, and air purge valve
- Easily accessible 1" throwaway filter
- Optional 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.

Efficiency:

The HCXR (X) series air handler is the latest state-of-the-art air handler for hot water heating. Depending on the tankless water heater efficiency and the condensing unit used, heating efficiency can exceed 90% and cooling efficiency can be up to 16 SEER2 (depending on the selected outdoor unit). Cooling coils have either piston type metering devices or R-410A 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 ECM 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:

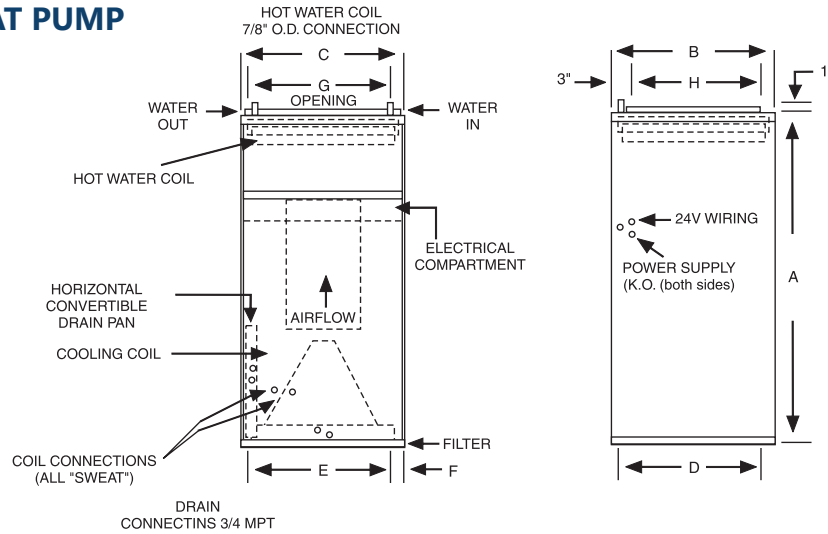
When space heating is needed, the wall thermostat energizes the circulating pump which circulates hot water from the water heater to the hot water coil in the air handler. As the blower motor forces cool return air from the home over the hot water coil, the air absorbs heat from the hot water. This warm 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.

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ELECTRICAL DATA					
UNIT MODEL	MOTOR HP (120V)	AMPS		MIN. CIR. AMPACITY	MAX. HACR BREAKER
		MOTOR	PUMP		
18HCXR*X	1/3	4.8	0.84	5	15
24HCXR*X	1/3	4.8	0.84	5	15
30HCXR*X	1/2	6.8	0.84	10	15
36HCXR*X	1/2	6.8	0.84	10	15
48HCXR*X	1	10.9	0.84	15	15

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
18HCXR*X 24HCXR*X	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
30HCXR*X 36HCXR*X	42	23	20	21-1/2	16	2	18	19	20 X 22 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	GPM	130°F	GPM	140°F	GPM
18HCXR*X	18,000	USM318AP	4.0	700	21.0	2.1	24.6	2.4	28.8	2.9
24HCXR*X	24,000	USM424AP	4.0	830	22.7	2.3	27.3	2.7	31.8	3.2
30HCXR*X	30,000	USM330AP	4.6	1040	27.0	2.7	32.4	3.2	37.8	3.8
36HCXR*X	36,000	USM436A	4.6	1190	28.8	2.9	34.6	3.5	40.4	4.0
48HCXR*X	42,000/ 48,000	USM348AP	4.1	1120 1500	33.5 37.5	3.4 3.8	40.2 45.0	4.0 4.5	46.9 52.5	4.7 5.3

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

(1) See "USM" data sheet for additional 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.

BLOWER DATA					UPFLOW / HORIZONTAL ONLY						
UNIT MODEL	MOTOR HP-AMP (120V)	BHP	NOMINAL AMPS	SPEED TAPS	CFM vs. EXTERNAL STATIC PRESSURE						
					0.05	0.10	0.20	0.30	0.40	0.50	
18HCXR*X	1/3-4.8	0.33 0.18 0.13	3.2 2.1 1.4	3	970	940	870	800	730	630	
				2	770	750	700	660	620	580	
				1	640	620	580	530	480	430	
24HCXR*X	1/3-4.8	0.33 0.18 0.13	3.2 2.1 1.4	3	930	900	830	760	690	600	
				2	740	720	690	650	610	560	
				1	620	600	560	520	480	430	
30HCXR*X	1/2-6.8	0.50 0.34 0.27	4.8 3.5 2.5	3	1250	1230	1170	1110	1050	990	
				2	1090	1070	1040	1010	980	950	
				1	960	940	900	860	820	780	
36HCXR*X	1/2-6.8	0.50 0.34 0.27	4.8 3.5 2.5	3	1280	1250	1190	1130	1070	1010	
				2	1110	1090	1050	1010	970	930	
				1	970	950	900	850	800	760	
48HCXR*X	1-10.9	1.00 0.66 0.47	8.5 6.8 4.1	3	1900	1870	1800	1730	1660	1590	
				2	1560	1540	1500	1460	1420	1380	
				1	1300	1270	1220	1170	1120	1070	



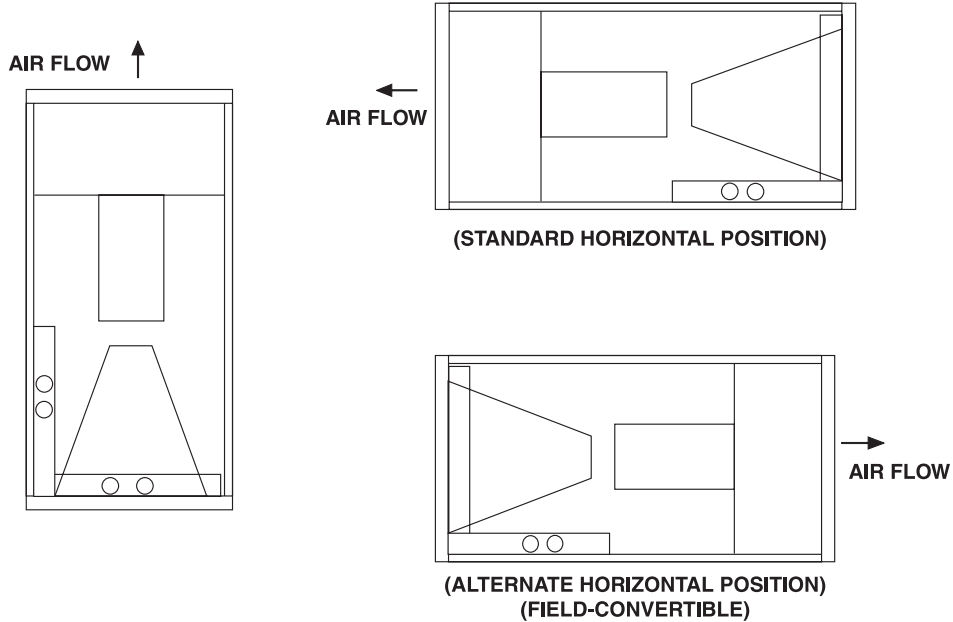
WARNING AVERTISSEMENT ADVERTENCIA
Cancer and Reproductive Harm
Cancer et Troubles de l'appareil reproducteur
Cáncer y Daño Reproductivo
www.P65Warnings.ca.gov LBY0657

Data is subject to change. Please verify most current information on www.firstco.com website.

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COOLING or HEAT PUMP
HW HEATING

3-WAY AIRFLOW



Model Numbers:

MODEL SIZE (BTU)	MODEL (PISTON)	FACTORY INSTALLED TXV'S
		MODEL (R-410A TXV)
18,000	18HCXR*X	18HCXR*X R410 TXV
24,000	24HCXR*X	24HCXR*X R410 TXV
30,000	30HCXR*X	30HCXR*X R410 TXV
36,000	36HCXR*X	36HCXR*X R410 TXV
42,000/48,000	48HCXR*X	48HCXR*X R410 TXV

All TXVs 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 ahridirectory.org.

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

Accessories:

MISCELLANEOUS (Field installed)		
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.

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

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.



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AUGUST 2024