

First Co.

HGX SERIES

HGX • HGX 120V • HGXX • HGXX 120V • HGXQ • HGXR • HGXW
Multi-Position Fan Coils

Compatible with R32 and R454B

Upflow / Horizontal

Heat Pump or DX

Electric Heat, Hot Water Coils, Standard or Hi Flow Pump

1-1/2 – 5 Tons Cooling

0 – 25 kW Electric Heat



AHRI CERTIFIED®
www.ahridirectory.org

Unitary Small AC
AHRI Standard 210/240
Certification applies only when the complete system
is listed with AHRI.

AHRI CERTIFIED®
www.ahridirectory.org

Unitary Small HP
AHRI Standard 210/240
Certification applies only when the complete system
is listed with AHRI.

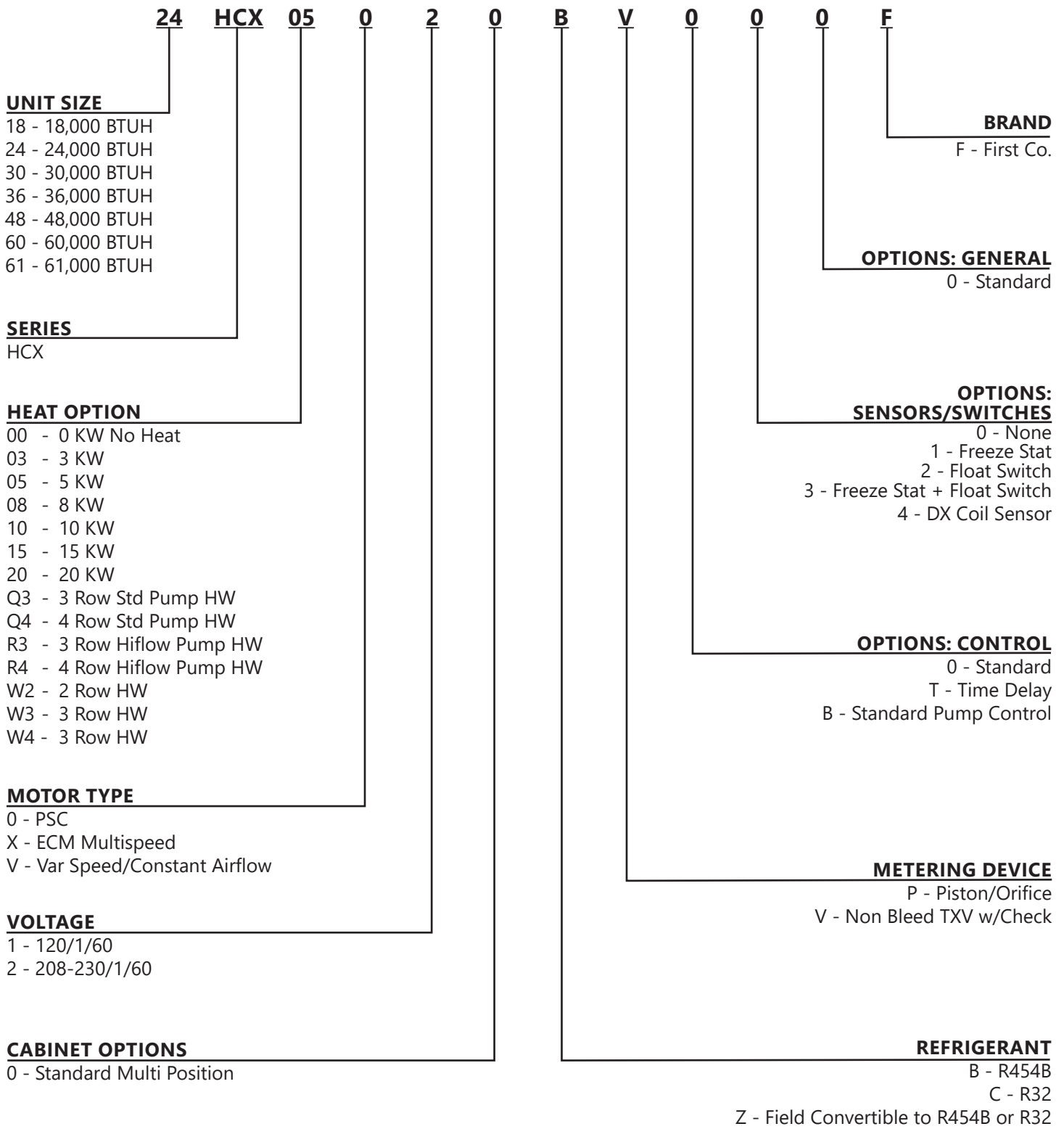
TABLE OF CONTENTS

NOMENCLATURE	3
SERIES FEATURES	4
HCXHEAT PUMP OR DX W/ELECTRIC HEAT	6
HCX 120VHEAT PUMP OR DX W/ELECTRIC HEAT 120V	9
HCXXHEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR.....	11
HCXX 120VHEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR 120V	14
HCXQHEAT PUMP OR DX W/STANDARD PUMP & PSC MOTOR.....	16
HCXQXHEAT PUMP OR DX W/STANDARD PUMP & ECM MOTOR	22
HCXQVHEAT PUMP OR DX W/STANDARD PUMP & VARIABLE SPEED MOTOR.....	25
HCXRHEAT PUMP OR DX W/HI FLOW PUMP & PSC MOTOR.....	30
HCXRXHEAT PUMP OR DX W/HI FLOW PUMP & ECM MOTOR.....	34
HCXWHEAT PUMP OR DX W/HOT WATER COIL & PSC MOTOR.....	38
HCXWXHEAT PUMP OR DX W/HOT WATER COIL & ECM MOTOR.....	44
HCXWVHEAT PUMP OR DX W/HOT WATER COIL & VARIABLE SPEED MOTOR.....	48

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

NOMENCLATURE

FULL SERIES NOMENCLATURE



Model specific NOMENCLATURE presented at each respective section of document.

HCX SERIES

MULTI-POSITION FAN COILS

HCX • HCX 120V • HCXX • HCXX 120V • HCXQ • HCXQX • HCXQV • HCXR • HCXRX • HCXW • HCXWX • HCXWV

APPLICATION

The HCX series air handler is designed to offer the industry an air handler that includes every available feature as well as up to 15 SEER2 when matched with today's higher efficiency condensing units and heat pumps.

The HCX is completely factory assembled with a cooling coil, electric heat (except 0kW models), 240V motor, 24V transformer, horizontal drain pan, and throw away filter. All components are installed within a fully insulated, galvanized steel cabinet with an attractive powder coated finish with 2% or less leak loss.

Units ordered for R454B (Option B) and R32 (Option C) are factory configured with TXV or piston and factory installed refrigerant sensor.

Field convertible units (Option Z) are configured for R454B and R32 refrigerants with a factory installed refrigerant sensor. TXV kits are available.

STANDARD FEATURES

- 3-way airflow (except 60/61HCX)
- Factory installed horizontal drain pan
- Completely prewired with 0-25kW electric heat (except 0kW models)
- Compatible with major brands of split condensing units and heat pumps (Contact factory for correct match with outdoor unit)
- Piston-type metering device or factory or field installed TXV (non-bleed type) on cooling coil
- Factory installed filter
- Attractive baked on finish
- Copper tube cooling coils
- Primary and secondary drain connections on cooling coil
- Fully insulated and painted galvanized steel cabinet
- Factory installed disconnect switch (over 10kW models)

EFFICIENCY

The HCX series air handler is the latest state-of-the-art air handler for heat pump or straight cool (DX) operation. Depending on the condensing unit or heat pump used, cooling efficiency is up to 15 SEER2 depending on the outdoor unit. Cooling coils have factory installed TXVs and are circuited for cooling or heat pump operation.

COMPONENTS

Each air handler includes a high efficiency cooling coil, pre-wired electric heat (except 0kW), service switch (over 10kW), 240V fan motor, 24V transformer, horizontal drain pan, and throw away filter.

CABINETS

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

Cabinet air leakage is no more than 2% when tested in accordance with ASHRAE 193.

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.

HCX SERIES

MULTI-POSITION FAN COILS

HCX • HCX 120V • HCXX • HCXX 120V • HCXQ • HCXQX • HCXQV • HCXR • HCXRX • HCXW • HCXWX • HCXWV

ACCESSORIES & DIMENSIONS

IMPORTANT NOTE

All Z model units ship with factory-installed refrigerant sensor. Field installed TXV must be compatible with A2L refrigerant being used. Failure to maintain use of refrigerant sensor may result in unit damage, property damage, and/or death. Warranty will be void.

EXPANSION VALVE KITS (HEAT PUMP OR COOLING ONLY)

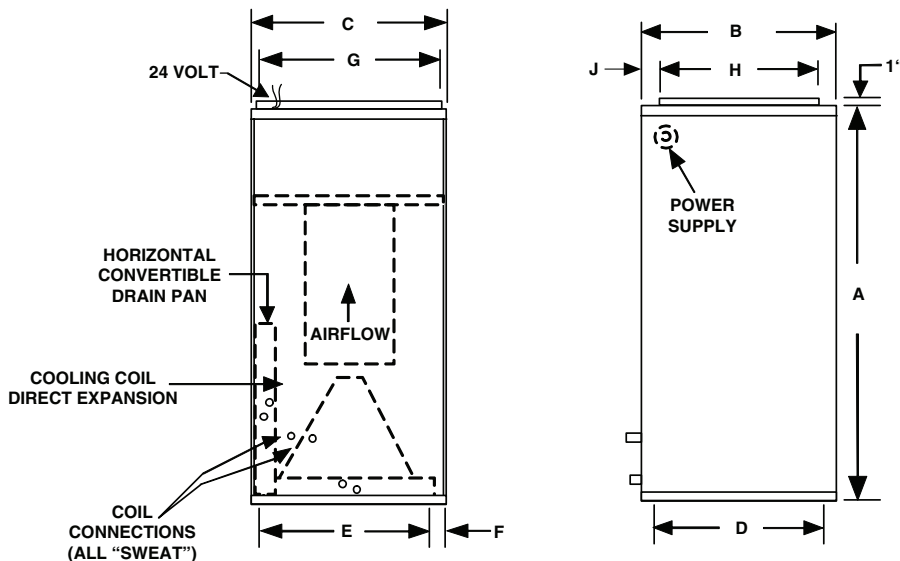
PART NUMBER	DESCRIPTION
9EVR410-3	18/24 HCX (For servicing existing 410A equipment only)
9EVR410-4	30/36 HCX (For servicing existing 410A equipment only)
9EVR410-5	40/60/61 HCX (For servicing existing 410A equipment only)
9EVR454B-2A	18-36 HCX R454B TXV (For Z options only)
9EVR32-2A	18-36 HCX R32 TXV (For Z options only)
9EVR454B-3A	48-60 HCX R454B TXV (For Z options only)
9EVR32-3A	48-60 HCX R32 TXV (For Z options only)

NOTES:

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

PHYSICAL DIMENSIONS

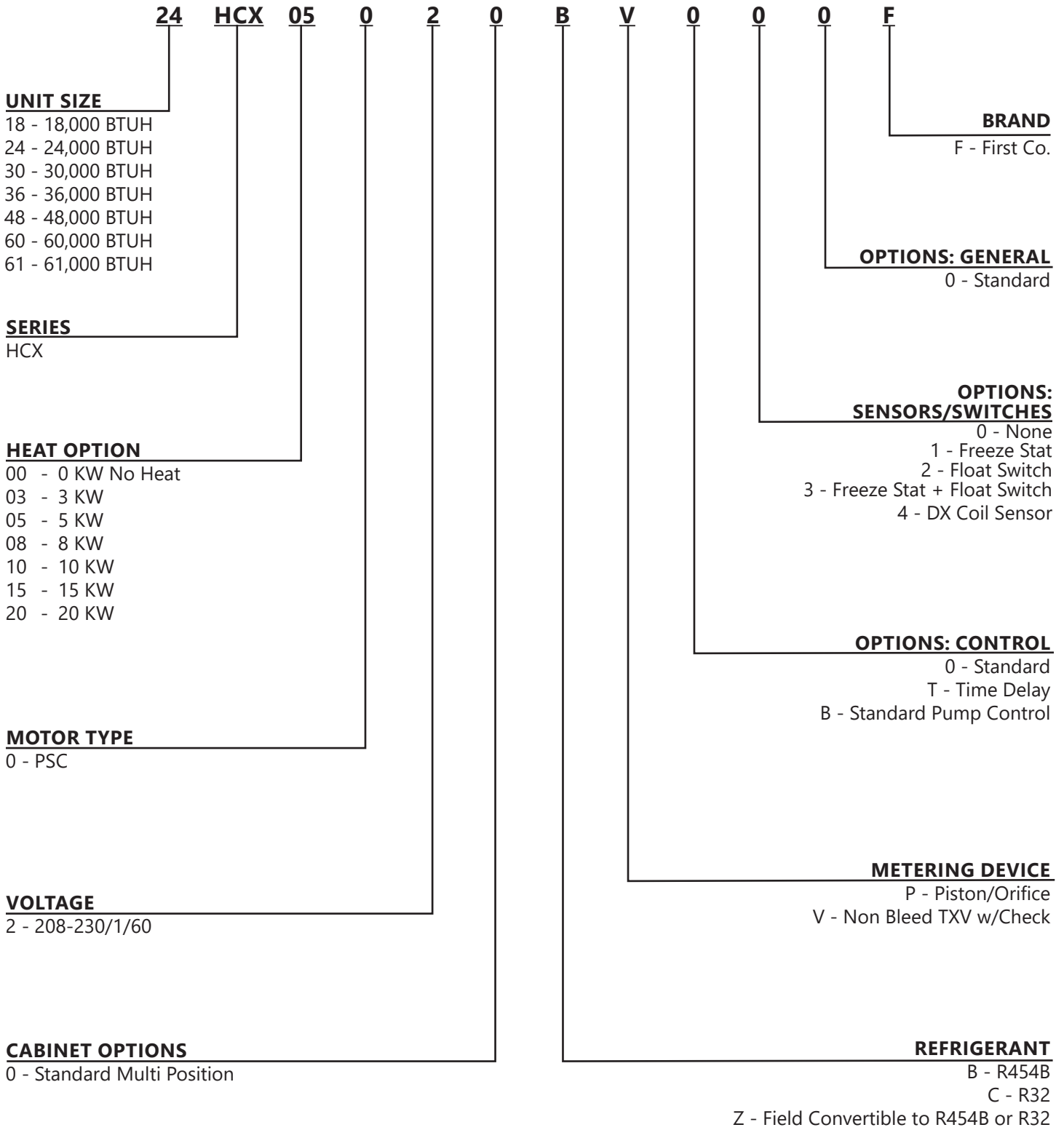
UNIT MODEL	A	B	C	D	E	F	G	H	J	LIQ. (SWEAT)	SUCT. (SWEAT)	FILTER
18/24HCX**0	40	20	20	18-1/2	16	2	18	16	3	3/8	5/8	18 X 20 X 1
30/36HCX**0	42	23	20	21-1/2	16	2	18	17	5	3/8	3/4	20 X 22 X 1
48/60HCX**0	48	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1
61HCX**0	54	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1



HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT

HCX



HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT

HCX
DATA TABLES

ELECTRICAL DATA														
UNIT MODEL	NOM. CFM	(1) NOM. COOL BTUH	ELECTRIC HEAT CAPACITY				TOTAL AMPS		MIN. CIR. AMPACITY		MAX. FUSE OR HACR BREAKER			
			kW		BTUH		240V	208V	240V	208V	240V	208V		
			240V	208V	240V	208V								
18HCX**0 & 24HCX**0		-0	600	18,000	0	0	0	0	1.6	1.6	2	2	15	15
		-3			3	2.3	10,200	7,700	14	13	18	16	20	20
		-4			4	3	13,600	10,200	19	16	23	20	25	20
		-5	800	24,000	5	3.8	17,000	13,000	23	20	28	25	30	25
		-6			6	4.5	20,500	15,400	27	24	36	29	40	30
		-8			8	6	27,300	20,500	35	31	46	38	50	40
		-10			10	7.5	34,100	25,600	44	38	54	47	60	50
30HCX**0 & 36HCX**0		-0	1,000	30,000	0	0	0	0	2.5	2.5	3	3	15	15
		-5			5	3.8	17,000	13,000	24	21	30	26	30	30
		-8			8	6	27,300	20,500	36	32	46	40	50	40
		-10	1,200	36,000	10	7.5	34,100	25,600	45	39	56	49	60	50
	(2)	-15			15	11.3	51,100	38,500	45	39	56	49	60	50
48HCX**0		-0	1,600	48,000	0	0	0	0	3.5	3.5	5	5	15	15
		-5			5	3.8	17,000	13,000	25	22	30	27	30	30
		-8			8	6	27,300	20,500	37	33	47	40	50	40
		-10	(2)	48,000	10	7.5	34,100	25,600	46	40	57	50	60	50
		-15			15	11.3	51,100	38,500	46	40	57	50	60	50
		-20			20	15	68,200	51,100	46	40	57	50	60	50
		-25			25	18.75	85,250	63,900	46	40	57	50	60	50
60HCX**0 & 61HCX**0		-0	2,000	60,000	0	0	0	0	6.0	6.0	8	8	15	15
		-5			5	3.8	17,000	13,000	27	24	34	30	35	30
		-8			8	6	27,300	20,500	40	35	49	44	50	45
		-10	(2)	60,000	10	7.5	34,100	25,600	48	42	60	53	60	60
		-15			15	11.3	51,100	38,500	48	42	60	53	60	60
		-20			20	15	68,200	51,100	48	42	60	53	60	60
		-25			25	18.75	85,200	63,900	48	42	60	53	60	60
		-10	(2)	60,000	10	7.5	34,100	25,600	48	42	60	53	60	60
	-15	15			11.3	51,100	38,500	48	42	60	53	60	60	
	-20	20			15	68,200	51,100	48	42	60	53	60	60	
	-25	(2)	25	18.75	85,200	63,900	48	42	60	53	60	60		

NOTES:

1. Nom. cooling at 45°F suction temp. 80°F DB / 67°F WB air on.
2. 15kW and 20kW models require 2 supply circuits. 25k models require 3 supply circuits.
3. Units suitable for installation with 0" clearance to combustible material.

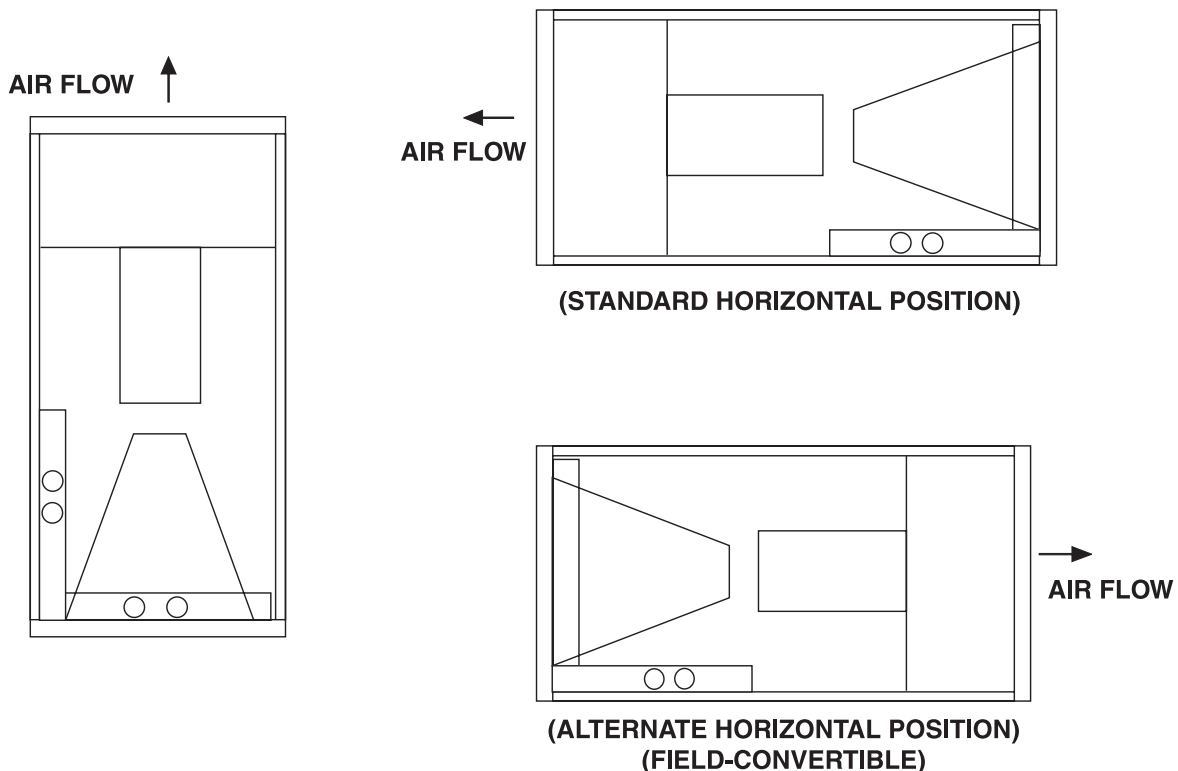
Data is subject to change. Please verify current information at www.firstco.com.

BLOWER DATA										
UNIT MODEL	FAN SPEED	DUTY	MOTOR HP (240V)	CFM vs. EXTERNAL STATIC PRESSURE						
				0.10	0.15	0.20	0.25	0.30	0.40	0.50
18HCX**0	LOW	COOL	1/6	780	750	720	700	660	600	510
	LOW	HEAT		780	750	720	700	660	600	510
24HCX**0	HIGH	COOL	1/6	900	880	860	830	790	700	600
	LOW	HEAT		740	710	690	660	630	570	490
30HCX**0	LOW	COOL	1/3	1210	1190	1160	1140	1110	1050	990
	LOW	HEAT		1210	1190	1160	1140	1110	1050	990
36HCX**0	HIGH	COOL	1/3	1410	1380	1340	1310	1270	1190	1060
	LOW	HEAT		1170	1150	1130	1100	1080	1030	970
48HCX**0	HIGH	COOL	1/2	1760	1730	1680	1640	1580	1480	1360
	MWD.	COOL		1490	1460	1430	1400	1370	1300	1210
	LOW	HEAT		1280	1260	1230	1210	1190	1130	1080
60HCX**0	HIGH	COOL	3/4	2130	2110	2090	2060	2025	1930	1820
	LOW	HEAT		1690	1680	1660	1640	1620	1580	1540
61HCX**0	HIGH	COOL	3/4	2175	2150	2130	2100	2065	1970	1855
	LOW	HEAT		1725	1715	1695	1675	1650	1610	1570

NOTE:

Use 48HCX**0 for 3.5 ton applications and field convert to medium speed for cooling.

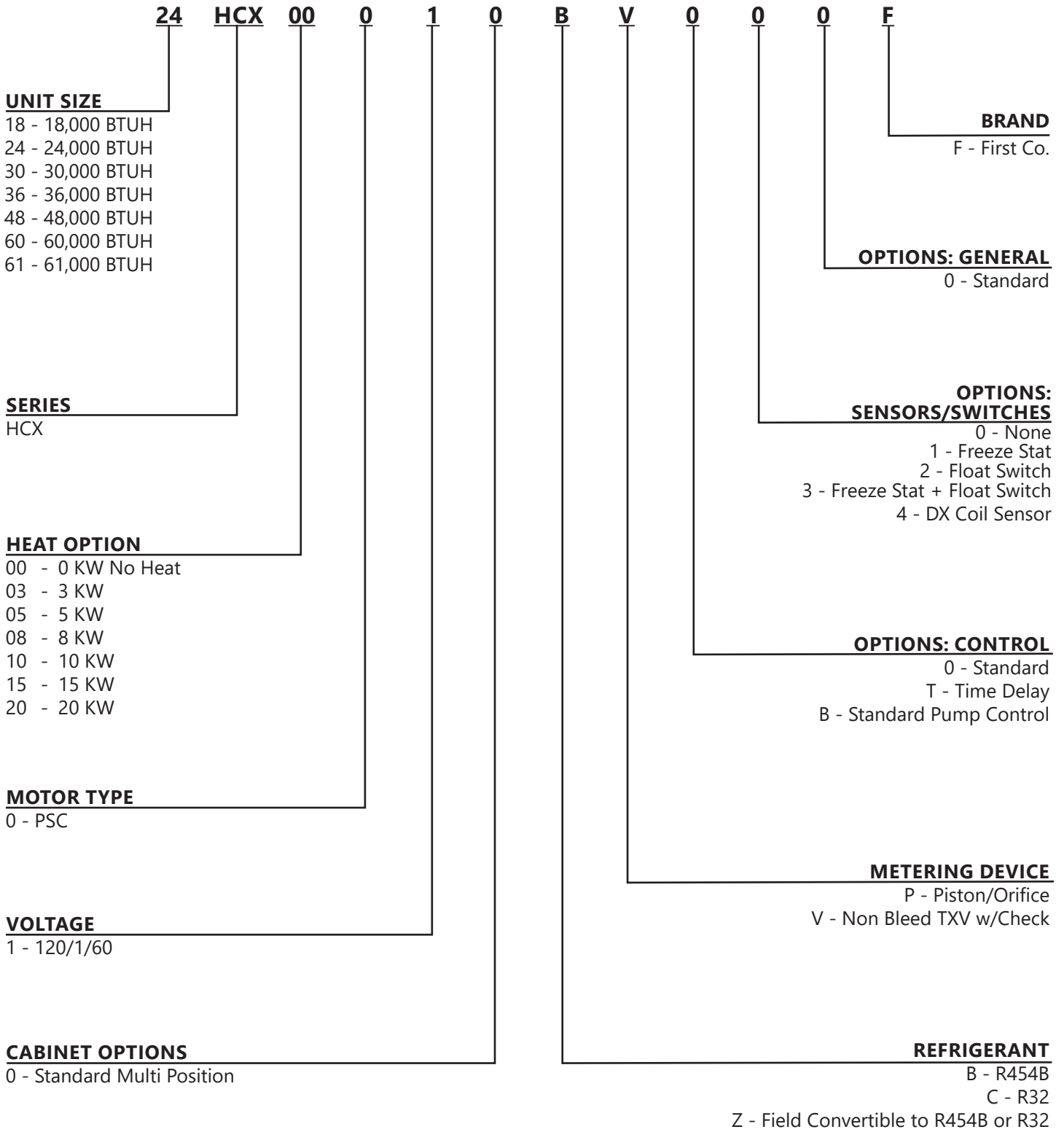
3-WAY AIRFLOW



HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT 120V

HCX 120V



HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT 120V

HCX 120V

DATA TABLES

The **HCX (120V)** series air handler is designed to offer the industry an air handler that includes every available feature as well as up to **15 SEER2** when matched with today's higher efficiency condensing units and heat pumps.

The **HCX (120V)** is completely factory assembled with a cooling coil, 120V motor, 24V transformer, horizontal drain pan, and throw away filter.

The **HCX (120V)** series air handler is the latest state-of-the-art air handler for heat pump or straight cool (DX) operation. Depending on the condensing unit or heat pump used, cooling efficiency is up to 15 SEER2 depending on the outdoor unit. Cooling coils have factory installed R545B TXVs and are circuited for cooling or heat pump operation. Field installed TXVs are available for R32 refrigerant and for servicing existing R410A equipment.

PHYSICAL DIMENSIONS												
UNIT MODEL	A	B	C	D	E	F	G	H	J	LIQ. (SWEAT)	SUCT. (SWEAT)	FILTER
18/24HCX**01	40	20	20	18-1/2	16	2	18	16	3	3/8	5/8	18 X 20 X 1
30/36HCX**01	42	23	20	21-1/2	16	2	18	17	5	3/8	3/4	20 X 22 X 1
48/60HCX**01	48	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1
61HCX**01	54	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1

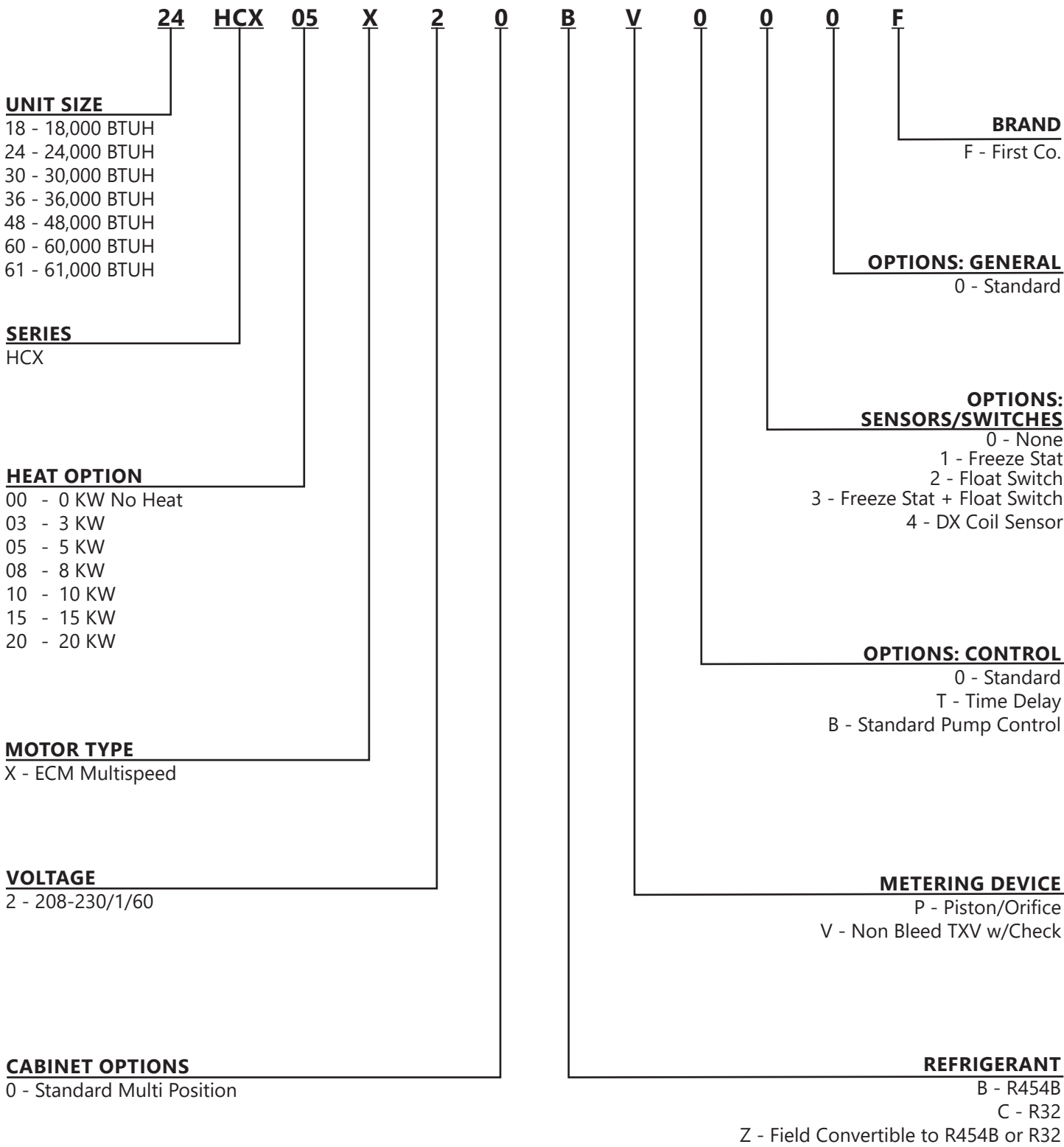
BLOWER DATA PSC MOTOR												
UNIT MODEL	Nom. Cooling Tonnage	MOTOR HP (120V)	FLA	MCA	Max. Overload Protection	Motor Speed	CFM vs. EXTERNAL STATIC PRESSURE					
							0.1	0.2	0.3	0.4	0.5	
18HCX**01	1.5	1/3	4.1	6.0	15	High	900	840	785	735	655	
						M. High	855	805	755	695	605	
						M. Low	800	755	710	650	560	
						Low	690	655	610	545	485	
24HCX**01	1.5-2.0	1/3	4.1	6.0	15	High	920	855	785	715	635	
						Med-HI	870	805	740	665	585	
						Med-Low	795	725	665	605	530	
						Low	670	620	570	510	430	
30HCX**01	2.0-2.5	1/2	7.5	10	20	High	1485	1425	1360	1300	1225	
						Medium	1405	1345	1285	1220	1160	
						Low	1270	1230	1180	1120	1040	
36HCX**01	2.5-3.0	1/2	7.5	10	20	High	1420	1360	1300	1240	1180	
						Med-HI	1340	1280	1230	1175	1110	
						Low	1225	1180	1140	1080	1025	
48HCX**01	4-3.5	1	10.4	13	20	High	1820	1790	1750	1685	1620	
						Medium	1460	1440	1405	1375	1330	
						Low	1180	1170	1155	1125	1095	
60HCX**01	4-5	1	10.4	13	20	High	1805	1760	1715	1650	1590	
						Medium	1460	1440	1395	1355	1330	
						Low	1165	1140	1125	1105	1065	
61HCX**01	4-5	1	10.4	13	20	High	1860	1815	1765	1700	1640	
						Medium	1505	1485	1435	1395	1370	
						Low	1200	1175	1160	1140	1095	

NOTE: Use 48HCX**01 for 3.5 ton applications and field convert to medium speed for cooling.

HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR

HCXX



HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR

HCXX DATA TABLES

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

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

Standard configuration from the factory is upflow and horizontal (right-to-left airflow). All sizes can be easily re-configured in the field for horizontal (left-to-right) airflow.

PHYSICAL DIMENSIONS												
UNIT MODEL	A	B	C	D	E	F	G	H	J	LIQ. (SWEAT)	SUCT. (SWEAT)	FILTER
18/24HCX**X	40	20	20	18-1/2	16	2	18	16	3	3/8	5/8	18 X 20 X 1
30/36HCX**X	42	23	20	21-1/2	16	2	18	17	5	3/8	3/4	20 X 22 X 1
42/48/60HCX**X	48	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1
61HCX**01	54	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1

BLOWER DATA									
UNIT MODEL	MOTOR HP	SPEED TAP	MOTOR BHP	NOM. AMPS	CFM vs. EXTERNAL STATIC PRESSURE				
					0.10	0.20	0.30	0.40	0.50
18HCX**X	1/3	3	0.21	1.5	910	870	830	790	730
		2	0.14	0.9	750	710	670	620	570
		1	0.14	0.9	750	710	670	620	570
24HCX**X	1/3	4	0.33	2.0	1030	960	890	810	730
		3	0.21	1.5	880	840	800	760	700
		2	0.14	0.9	710	670	630	580	530
30HCX**X	1/2	3	0.38	2.4	1360	1330	1300	1270	1230
		2	0.29	1.6	1180	1140	1100	1060	1020
		1	0.29	1.6	1180	1140	1100	1060	1020
36HCX**X	1/2	4	0.47	3.2	1500	1450	1390	1330	1270
		3	0.38	2.4	1330	1300	1270	1230	1190
		2	0.29	1.6	1150	1110	1070	1030	990
42HCX**X 48HCX**X	1	4	0.72	4.1	1790	1740	1700	1670	1640
		3	0.68	3.8	1730	1690	1650	1610	1570
		2	0.51	2.6	1470	1430	1390	1350	1300
		1	0.36	1.6	1200	1160	1110	1050	970
60HCX**X	1	3	0.98	6.5	2100	2060	2020	1980	1940
		2	0.85	5.1	1930	1890	1850	1810	1770
		1	0.68	3.7	1700	1660	1620	1580	1540
61HCX**X	1	3	0.99	6.6	2120	2080	2040	2000	1960
		2	0.86	5.2	1950	1910	1870	1830	1790
		1	0.69	3.8	1715	1675	1635	1595	1555

NOTES:

Use 48HCX**X for 3.5 ton applications and field convert to medium speed for cooling.

Shaded speed taps are factory settings (higher speed is cooling).

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

HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR

HCXX
DATA TABLES

PERFORMANCE DATA																
UNIT MODEL			NOM. CFM	(1) NOM. COOL BTUH	ELECTRIC HEAT CAPACITY				TOTAL AMPS		MIN. CIR. AMPACITY		MAX. FUSE OR HACR BREAKER			
					kW		BTUH		240V	208V	240V	208V	240V	208V	240V	208V
					240V	208V	240V	208V								
18HCX**X & 24HCX**X		-0	600	18,000	0	0	0	0	2.8	2.8	-	-	15	15		
		-3			3	2.3	10,200	7,700	15.3	13.6	20	17	20	20		
		-4			4	3	13,600	10,200	19.5	17.2	25	22	25	25		
		-5	800	24,000	5	3.8	17,000	13,000	23.6	20.8	30	26	30	30		
		-6			6	4.5	20,500	15,400	27.8	24.4	35	31	35	35		
		-8			8	6	27,300	20,500	36.1	31.6	46	40	50	40		
		-10			10	7.5	34,100	25,600	44.5	38.9	56	49	60	50		
30HCX**X & 36HCX**X		-0	1,000	30,000	0	0	0	0	4.1	4.1	-	-	15	15		
		-5			5	3.8	17,000	13,000	24.9	22.1	32	28	35	30		
		-8			8	6	27,300	20,500	37.4	32.9	47	42	50	45		
		-10	1,200	36,000	10	7.5	34,100	25,600	45.8	40.2	58	51	60	60		
	(2)	-15			15	11.3	51,100	38,500	45.8 20.8	40.2 18	58 26	51 23	60 30	60 25		
42HCX**X & 48HCX**X		-0	1,600	48,000	0	0	0	0	7.6	7.6	-	-	15	15		
		-5			5	3.8	17,000	13,000	28.4	25.6	36	32	40	35		
		-8			8	6	27,300	20,500	40.9	36.4	52	46	60	50		
		-10	(2)	60,000	9.5	7.1	34,100	25,600	47.2	41.9	59	53	60	60		
		-15			14.5	10.9	51,100	38,500	47.2 20.8	41.9 18	59 26	53 23	60 30	60 25		
		-20			19.5	14.6	68,200	51,100	47.2 41.6	41.9 36	59 52	53 45	60 60	60 45		
		-0			0	0	0	0	7.6	7.6	-	-	15	15		
60HCX**X & 61HCX**X		-5	2,000	60,000	5	3.8	17,000	13,000	28.4	25.6	36	32	40	35		
		-8			8	6	27,300	20,500	40.9	36.4	52	46	60	50		
		-10			9.5	7.1	34,100	25,600	47.2	41.9	59	53	60	60		
		-15	(2)	60,000	14.5	10.9	51,100	38,500	47.2 20.8	41.9 18	59 26	53 23	60 30	60 25		
		-20			19.5	14.6	68,200	51,100	47.2 41.6	41.9 36	59 52	53 45	60 60	60 45		
		-0			0	0	0	0	7.6	7.6	-	-	15	15		
		-5			5	3.8	17,000	13,000	28.4	25.6	36	32	40	35		

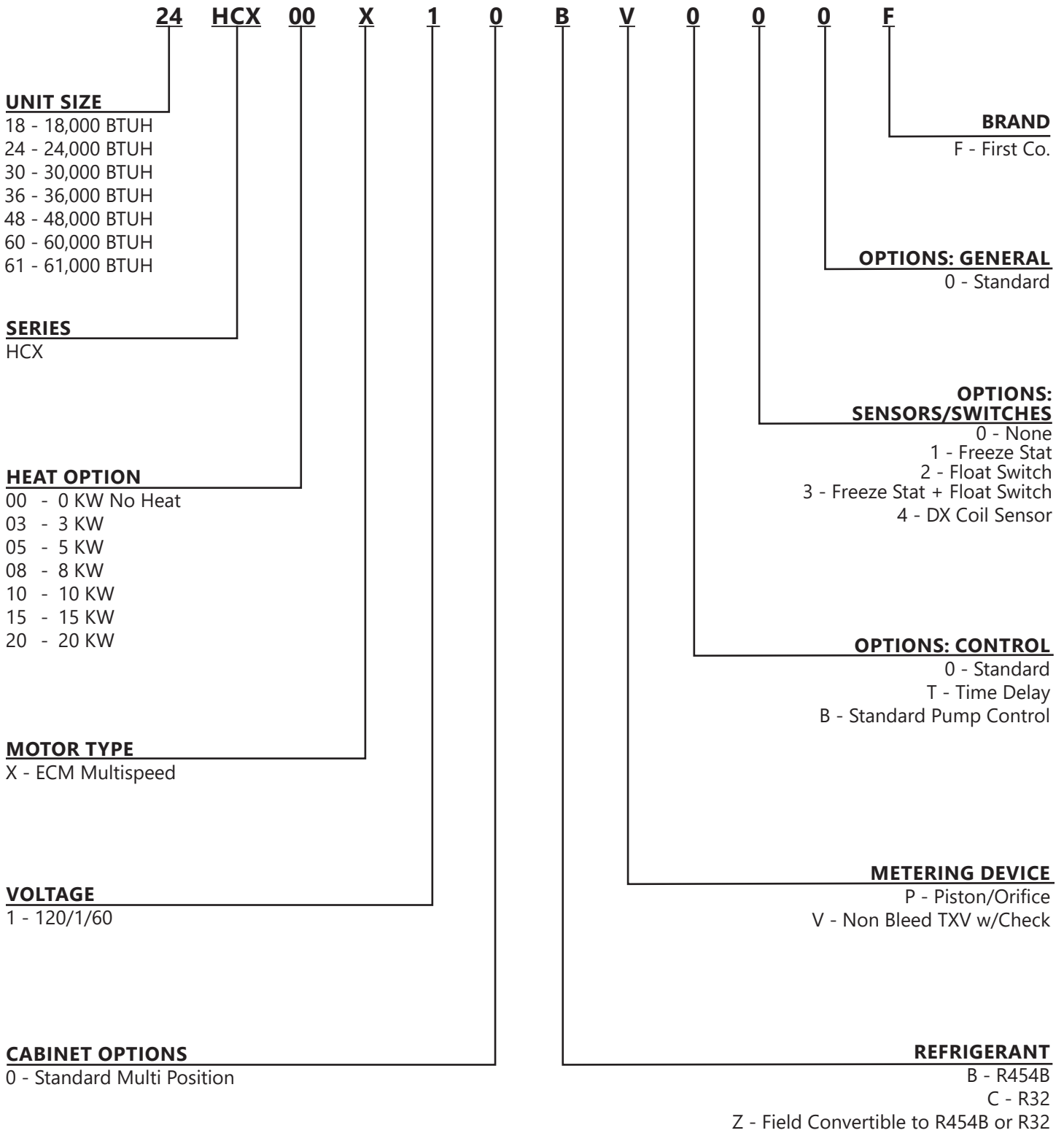
NOTES:

1. Nom. cooling at 45°F suction temp. 80°F DB / 67°F WB air on.
 2. 15kW and 20kW models require 2 supply circuits.
 3. Units suitable for installation with 0" clearance to combustibile material.
- Data is subject to change. Please verify current information at www.firstco.com.

HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR 120V

HCXX (120V)



HCX SERIES

HEAT PUMP OR DX W/ELECTRIC HEAT & ECM MOTOR 120V

HCXX (120V)

DATA TABLES

PHYSICAL DIMENSIONS												
UNIT MODEL	A	B	C	D	E	F	G	H	J	LIQ. (SWEAT)	SUCT. (SWEAT)	FILTER
18/24HCX**X	40	20	20	18-1/2	16	2	18	16	3	3/8	5/8	18 X 20 X 1
30/36HCX**X	42	23	20	21-1/2	16	2	18	17	5	3/8	3/4	20 X 22 X 1
48/60HCX**X	48	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1
61HCX**X	54	28	21-1/4	26-1/4	17	2	19-1/4	18-1/4	8-7/8	1/2	7/8	20 X 25 X 1

All TXVs are approved for cooling only or heat pump operation (non-bleed type).

(X) = ECM motor

NOTE:

Expansion valve requirement depends on the selected outdoor unit. Go to www.firstco.com under ratings or contact the factory for assistance.

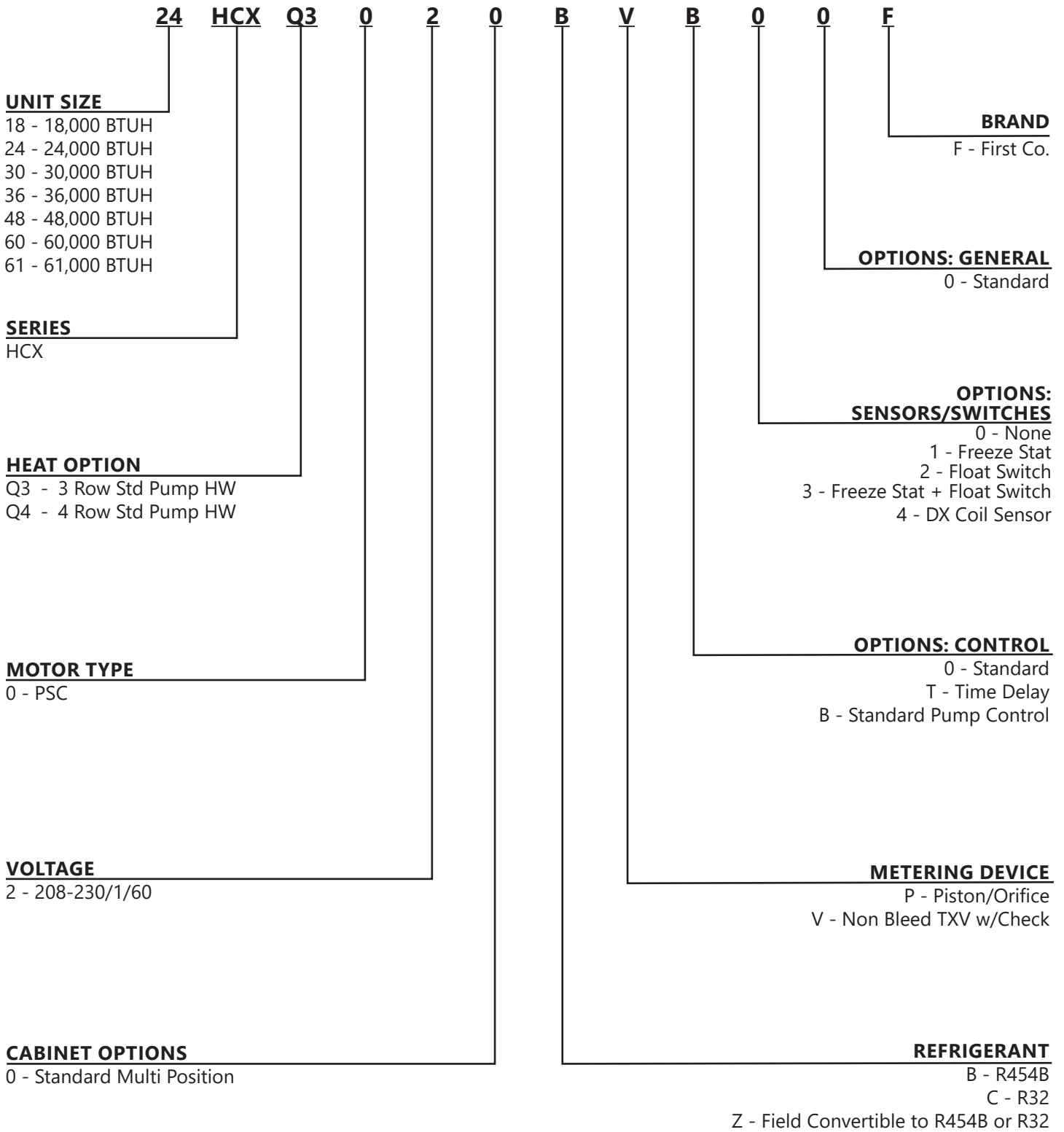
BLOWER DATA ECM MOTOR												
UNIT MODEL	MOTOR HP	SPEED TAP	MOTOR BHP	FLA	MCA	Max. Overload Protection	CFM vs. EXTERNAL STATIC PRESSURE					
							0.10	0.20	0.30	0.40	0.50	
18HCX**X	1/3	3	0.16	4.8	6.0	15	835	805	775	735	685	
		1 & 2	0.10				655	630	590	545	505	
24HCX**X	1/3	4	0.19	6.8	9.0	15	945	875	800	730	640	
		3	0.16				790	755	715	680	620	
		1 & 2	0.11				625	575	540	485	450	
30HCX**X	1/2	3	0.22	10.9	14.0	20	1320	1285	1250	1220	1180	
		1 & 2	0.17				1135	1100	1055	1030	995	
36HCX**X	1/2	4	0.30	10.9	14.0	20	1375	1350	1330	1300	1275	
		3	0.23				1230	1205	1175	1145	1120	
		1 & 2	0.17				1075	1040	1010	975	945	
48HCX**X	1	4	0.52	10.9	14.0	20	1730	1700	1665	1630	1585	
		3	0.49				1685	1645	1600	1570	1525	
		2	0.35				1440	1385	1345	1305	1255	
		1	0.23				1170	1115	1060	1025	965	
60HCX**X	1	3	0.77	10.9	14.0	20	2015	1970	1935	1900	1865	
		2	0.63				1870	1835	1790	1760	1715	
		1	0.48				1655	1615	1575	1540	1495	
61HCX**X	1	3	0.78	10.9	14.0	20	2045	2000	1965	1930	1895	
		2	0.63				1900	1865	1815	1785	1740	
		1	0.49				1680	1640	1600	1565	1515	

NOTE: Use 48HCX**X for 3.5 ton applications and field convert to medium speed for cooling.

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & PSC MOTOR

HGXQ



HCXQ

The “Combo” air handler converts a properly sized gas or oil-fired water heater into a highly efficient space heating appliance that can heat your home as well as provide hot water. Compared to other heating systems, combo heaters offer high efficiency, greater installation flexibility, cost less to install, and are much easier to service.

The HCXQ 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 HCXQ air handler is the only product available with these high quality features! Cooling efficiencies up to 15 SEER2, depending on the outdoor unit.

Proper water heater sizing is required to ensure adequate hot water supply for both domestic use and space heating. Contact the factory for sizing information.

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 does not exceed 180° 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 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

Logic for the following options is built into the micro-processor circuit board but each option requires an optional field installed switch. Contact factory.

- Freeze protection: circuit board has terminals for optional freeze protector switch. Freeze protector energizes the circulating pump if water coil temperature falls below 40 degrees.
- Factory or field installed TXVs (non-bleed type)
- Built-in circulating pump, air purge valve, and easy access hot water check valve
- Blower door safety switch (except 60HCXQ)
- Compatible with all major brands of split condensing units and heat pumps
- 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

EFFICIENCY

The HCXQ series air handler is the latest state-of-the-art air handler for 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 or TXVs and are circuit-ed 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-thermo-syphon check valve, blower door safety switch (except 60HCXQ), 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.

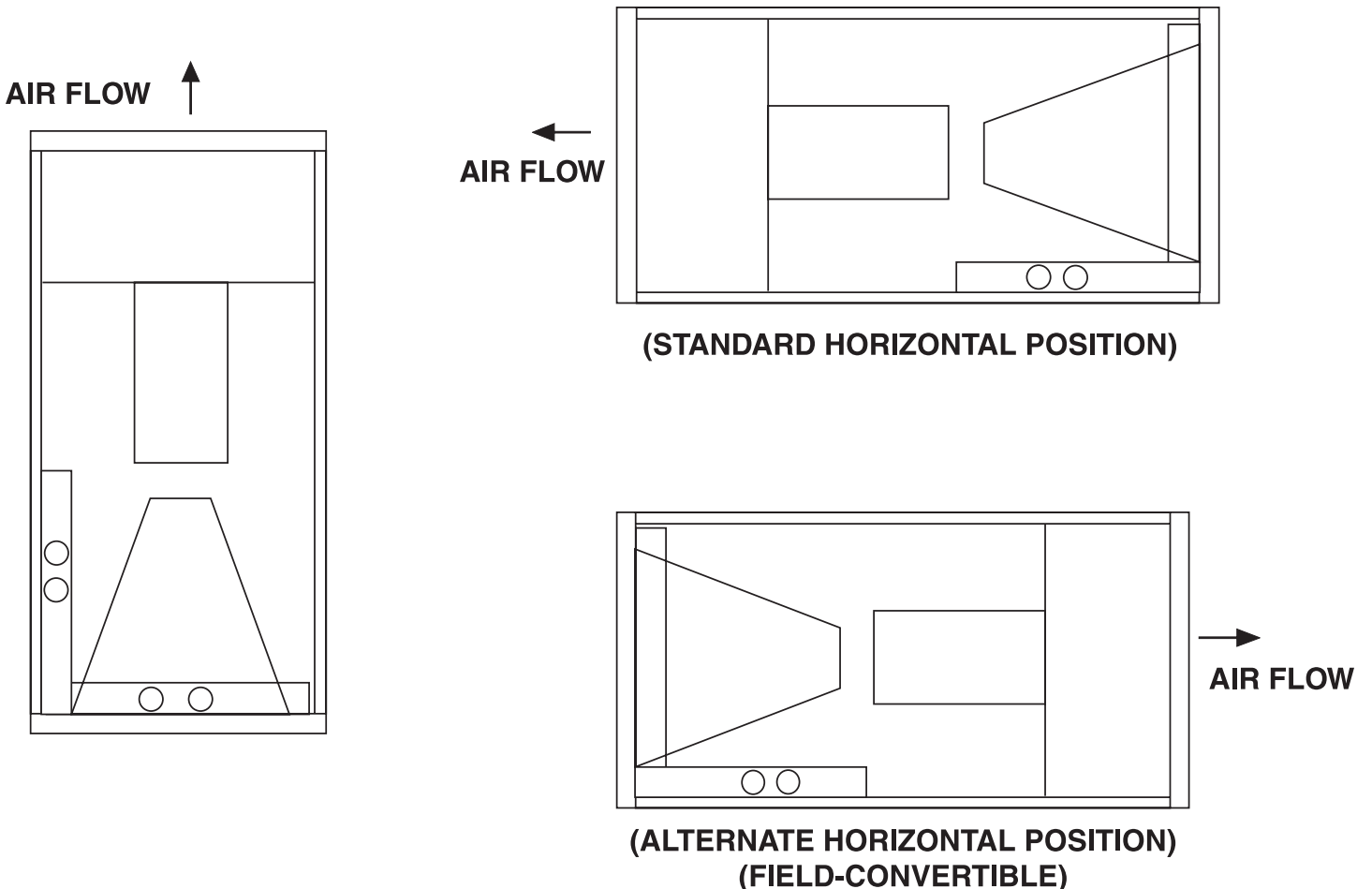
ADDITIONAL FEATURES (CONT'D)

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.



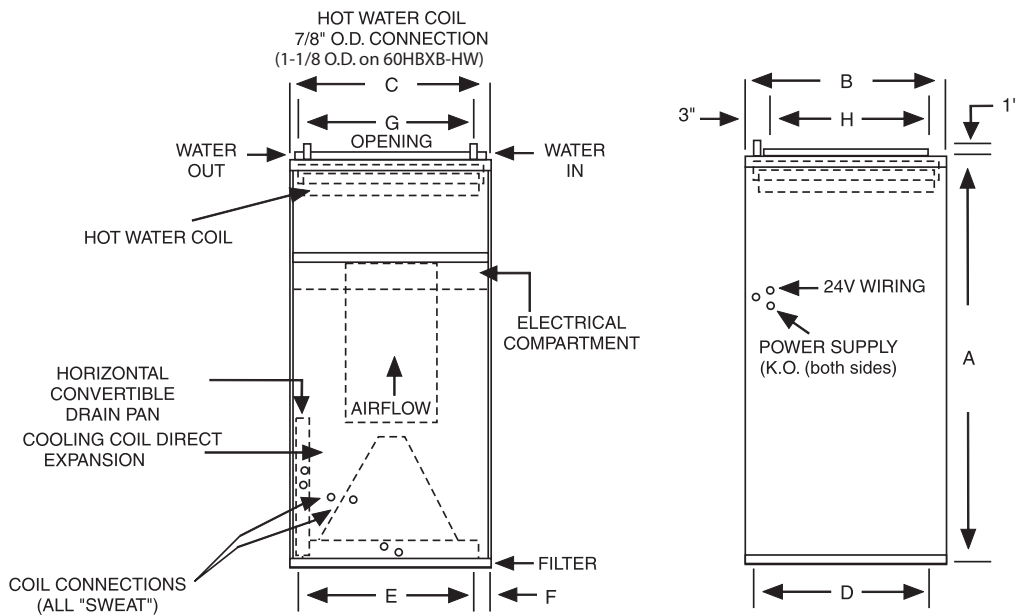
HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & PSC MOTOR

HCXQ
DATA TABLES

COOLING OR HEAT PUMP HOT WATER HEATING WITH PSC MOTOR

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
18HCXQ*0 24HCXQ*0	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
30HCXQ*0 36HCXQ*0	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
48HCXQ*0	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60HCXQ*0	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

ELECTRICAL DATA					
UNIT MODEL	MOTOR HP (120V)	AMPS		MIN. CIR. AMPACITY	MAX. HACR BREAKER
		MOTOR	PUMP		
18HCXQ*0	1/5	2.8	0.57	5	15
24HCXQ*0	1/5	5.1	0.57	7	15
30HCXQ*0	1/5	5.1	0.57	7	15
36HCXQ*0	1/2	8.5	0.57	12	15
48HCXQ*0	3/4	10.7	0.57	14	15
60HCXQ*0	1	11.5	0.75	16	20

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & PSC MOTOR

HCXQ
DATA TABLES

COOLING OR HEAT PUMP HOT WATER HEATING WITH PSC MOTOR

PERFORMANCE DATA											
UNIT MODEL	NOMINAL COOLING BTUH	COIL # (2)	P.D. (FT. WTR.)	BTUH (1000) AT ENTERING WATER TEMPERATURE Delta-T 20°F & GPM							
				120°F	GPM	140°F	GPM	160°F	GPM	180°F	GPM
18HCXQ*0	18,000	USM318AP	4.3	23.8	2.4	33.4	3.3	42.9	4.3	52.5	5.3
24HCXQ*0	24,000	USM424AP	4.3	25.5	2.6	35.8	3.6	46.0	4.6	56.2	5.6
30HCXQ*0	30,000	USM330AP	5.0	30.7	3.1	43.0	4.3	55.3	5.5	67.6	6.8
36HCXQ*0	36,000	USM436A	5.0	35.0	3.5	49.0	4.9	63.0	6.3	76.9	7.7
48HCXQ*0	42,000/ 48,000	USM348AP	3.4	45.9 48.6	4.6 4.9	64.3 68.1	6.4 6.8	82.6 87.5	8.3 8.8	101.0 107.0	10.1 10.7
60HCXQ*0	60,000	USM460BP	8.8	64.4	6.4	90.2	9.0	116.0	11.6	141.8	14.2

(1) Use 48HCXQ*0 for 3.5 ton applications and field-convert fan motor to low speed.

(2) 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 65°F entering air temperature.
4. Based on 20°F Delta-T. Velocity not to exceed 4ft./sec.

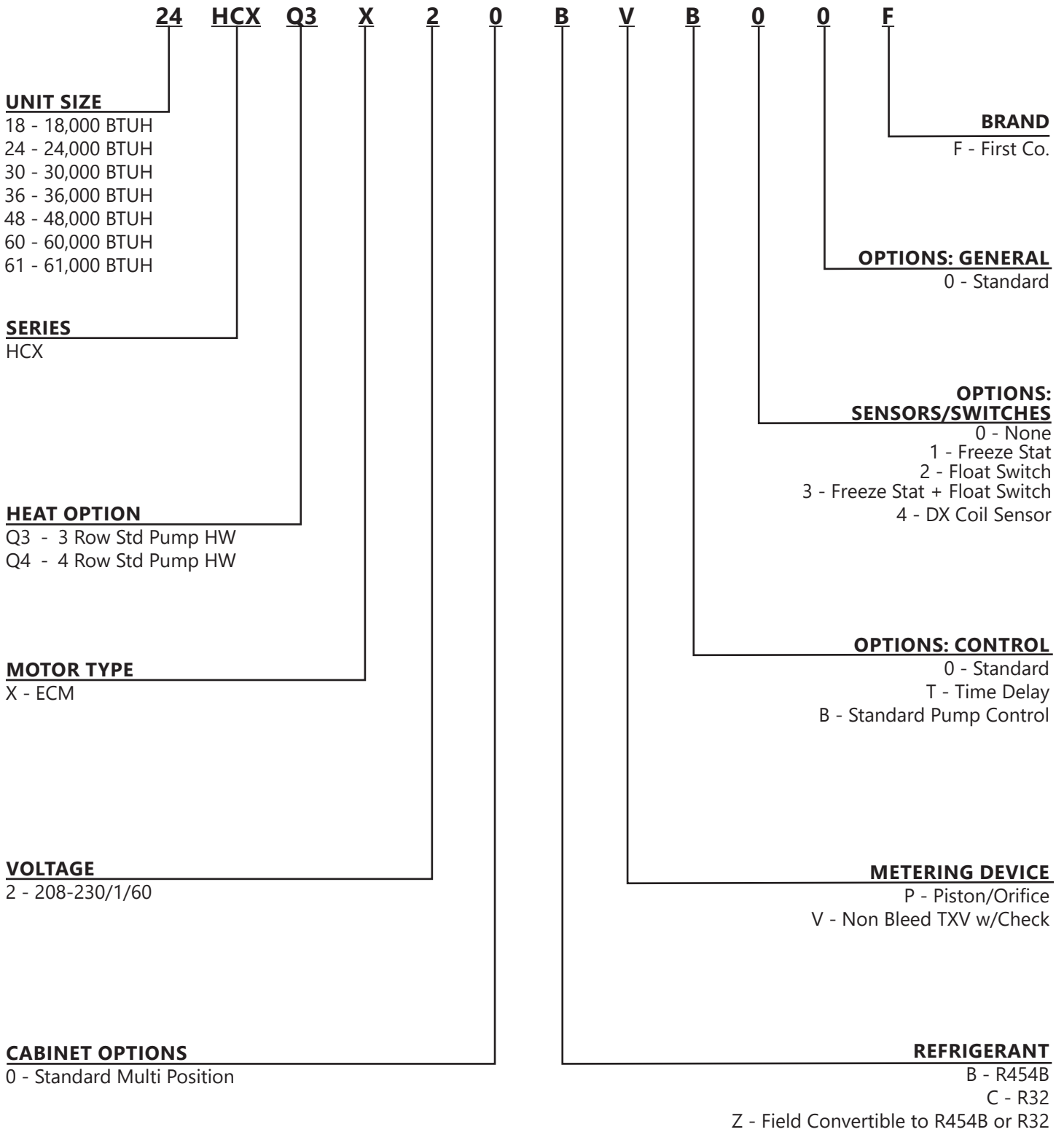
Data is subject to change. Please verify most current information on www.firstco.com.

BLOWER DATA			UPFLOW / HORIZONTAL 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
18HCXQ*0	1/5-2.8	HIGH	810	780	715	650	580	500
		MED. HIGH	680	655	600	545	490	420
		MED. LOW	530	505	460	415	360	295
		LOW	350	325	325	220	160	- - -
24HCXQ*0	1/5-5.1	HIGH	950	920	855	790	720	645
		MED	860	835	785	720	650	580
		LOW	780	755	705	650	590	510
30HCXQ*0	1/5-5.1	HIGH	1120	1095	1045	995	940	880
		MED	850	840	810	780	740	590
		LOW	680	670	655	625	585	510
36HCXQ*0	1/2-8.5	HIGH	1340	1310	1250	1190	1120	1050
		MED	1290	1260	1200	1140	1080	1000
		LOW	1200	1170	1120	1070	1010	940
48HCXQ*0	3/4-10.7	HIGH	1810	1780	1720	1660	1590	1530
		MED	1570	1550	1510	1460	1400	1340
		LOW	1280	1260	1220	1180	1130	1050
60HCXQ*0	1-11.5	HIGH	2160	2125	2055	1980	1895	1810
		MED	1865	1840	1785	1710	1620	1525
		LOW	1560	1540	1490	1435	1365	1260

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & ECM MOTOR

HCXQX



HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & ECM MOTOR

HCXQX

DATA TABLES

COOLING OR HEAT PUMP HOT WATER HEATING WITH ECM MOTOR

COIL CONNECTIONS		
UNIT SIZE	LIQUID	SUCTION
18/24	3/8	5/8
30/36	3/8	3/4
48/60	1/2	7/8

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
18HCXQ*X 24HCXQ*X	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
30HCXQ*X 36HCXQ*X	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
48HCXQ*X	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60HCXQ*X	52	28	25-1/4	26-1/2	21-1/4	2	22	24	14 X 24 X 1 (2 required)

ELECTRICAL DATA					
UNIT MODEL	MOTOR HP (120V)	AMPS		MIN. CIR. AMPACITY	MAX. HACR BREAKER
		MOTOR	PUMP		
18HCXQ*X	1/3	4.8	0.57	7	15
24HCXQ*X	1/3	4.8	0.57	7	15
30HCXQ*X	1/2	6.8	0.57	10	15
36HCXQ*X	1/2	6.8	0.57	10	15
48HCXQ*X	1	10.9	0.57	15	15
60HCXQ*X	1	10.9	0.75	15	15

PERFORMANCE DATA											
UNIT MODEL	NOMINAL COOLING BTUH	COIL # (2)	P.D. (FT. WTR.)	BTUH (1000) AT ENTERING WATER TEMPERATURE Delta-T 20°F & GPM							
				120°F	GPM	140°F	GPM	160°F	GPM	180°F	GPM
				18HCXQ*X	18,000	USM318AP	4.3	23.8	2.4	33.4	3.3
24HCXQ*X	24,000	USM424AP	4.3	25.5	2.6	35.8	3.6	46.0	4.6	56.2	5.6
30HCXQ*X	30,000	USM330AP	5.0	30.7	3.1	43.0	4.3	55.3	5.5	67.6	6.8
36HCXQ*X	36,000	USM436A	5.0	35.0	3.5	49.0	4.9	63.0	6.3	76.9	7.7
48HCXQ*X	42,000/ 48,000	USM348AP	3.4	45.9 48.6	4.6 4.9	64.3 68.1	6.4 6.8	82.6 87.5	8.3 8.8	101.0 107.0	10.1 10.7
60HCXQ*X	60,000	USM460BP	8.8	64.4	6.4	90.2	9.0	116.0	11.6	141.8	14.2

(1) Use 48HCXQ*X for 3.5 ton applications and field-convert fan motor to low speed.

(2) 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 65°F entering air temperature.
4. Based on 20°F Delta-T. Velocity not to exceed 4ft./sec.

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & ECM MOTOR

HCXQX

DATA TABLES

COOLING OR HEAT PUMP HOT WATER HEATING WITH ECM MOTOR

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
18HCXQ*X	1/3-4.8	0.33	3.2	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
24HCXQ*X	1/3-4.8	0.33	3.2	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
30HCXQ*X	1/2-6.8	0.50	4.8	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
36HCXQ*X	1/2-6.8	0.50	4.8	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
48HCXQ*X	1-10.9	1.00	8.5	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
60HCXQ*X	1-10.9	1.00	8.7	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

ACCESSORIES

FIELD INSTALLED

MISCELLANEOUS		
COMPONENT	DESCRIPTION	PART NUMBER
Freeze Protector	Energizes pump when coil temperature falls below 38°F	941-1

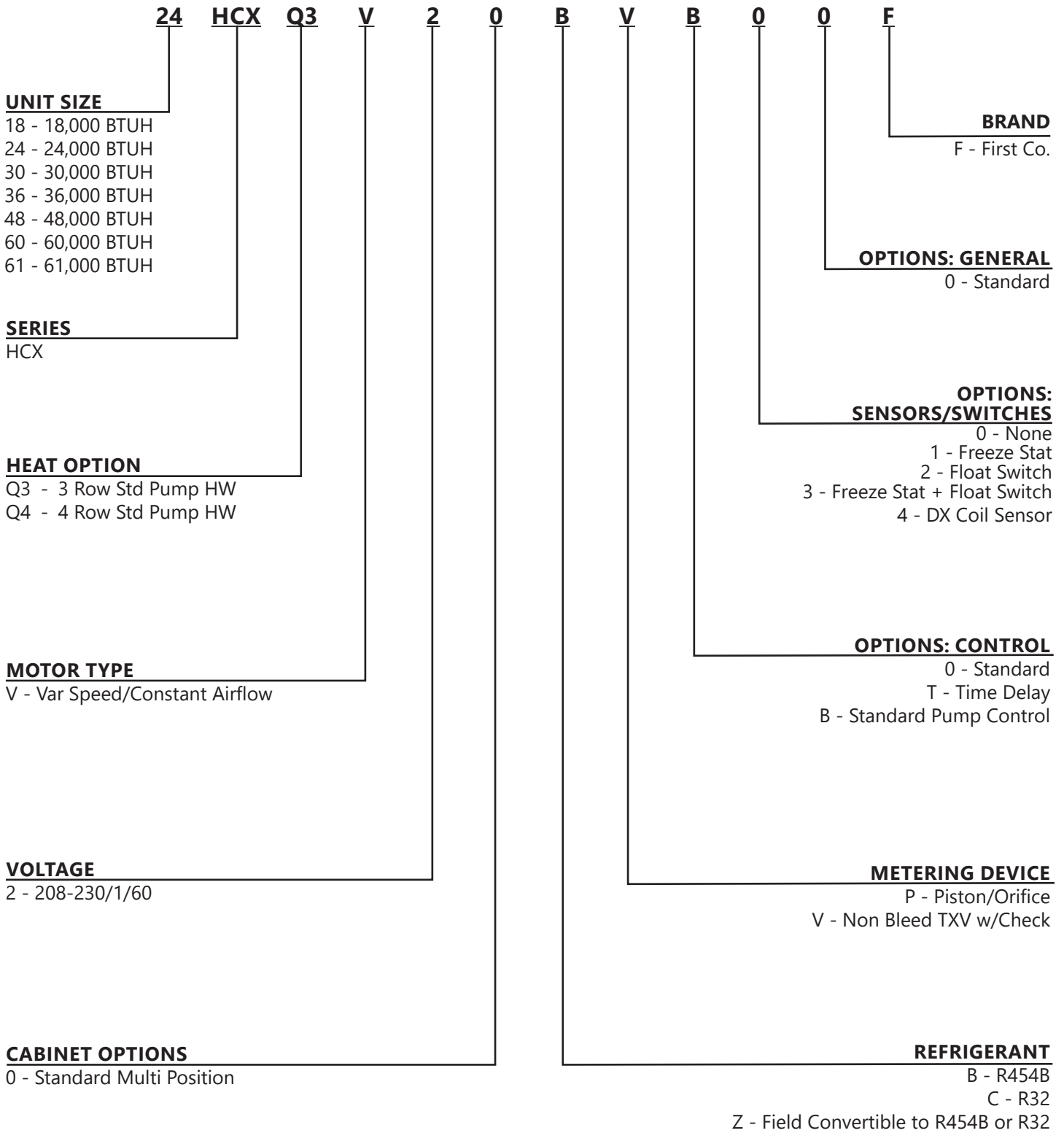
NOTES:

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

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & VARIABLE SPEED MOTOR

HCXQV



HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & VARIABLE SPEED MOTOR

HCXQV

HCXQV

The HCXQV motor automatically adjusts its torque and speed to maintain a preprogrammed level of constant airflow over a wide range of external static pressures. This variable speed technology offers better indoor air quality, more precise humidity control, quieter operation, consistent indoor air temperature, and lower utility bills.

High Efficiency - At full load conditions the **HCXQV** motor is 20% more efficient than an induction motor and at constant fan speed it consumes only **60-80 watts** of power compared to 400 watts for a standard induction motor. In addition, the **HCXQV** includes a high efficiency "A" coil with factory installed TXV for precise refrigerant control.

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.

STANDARD FEATURES

QUIET OPERATION

The versatile HCXQV motor quietly "ramps up" when the unit is turned on and "ramps down" when the thermostat is satisfied, eliminating the annoying sounds of changing airflow.

SELF-REGULATING CONSTANT AIRFLOW

The HCXQV motor is factory programmed to maintain a predetermined level of airflow over a wide range of external static pressures, ensuring optimum system performance and whole-house comfort. The benefits of constant fan operation are:

- Consistent air distribution (and temperature) throughout the home.
- Better indoor air quality (further improved with the addition of a high efficiency filter) - This allows the air to be filtered without excessive drafts and without sacrificing efficiency.
- Better humidity control - The HCXQV is designed to extract much more moisture from the air than a conventional system by slowing the airflow over the cooling coil. The result is an improved summer comfort level at higher indoor temperature.

ADDITIONAL FEATURES

- Hot water coil with circulating pump, air purge valve, and easy access check valve (all required with water heater applications)
- Factory installed TXV
- Blower door safety switch (except 48/60HCXQV)
- Hot water coil assembly slides out for easier service
- Attractive baked-on powder coat finish
- Fully insulated cabinet
- Primary and secondary drain connections on cooling coil
- Optional hot water coil freeze protector, Upflow / Horizontal drain pans
- Higher efficiency pleated filter
- Compatible with most properly sized and installed zone control systems. Contact the zone control manufacturer

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & VARIABLE SPEED MOTOR

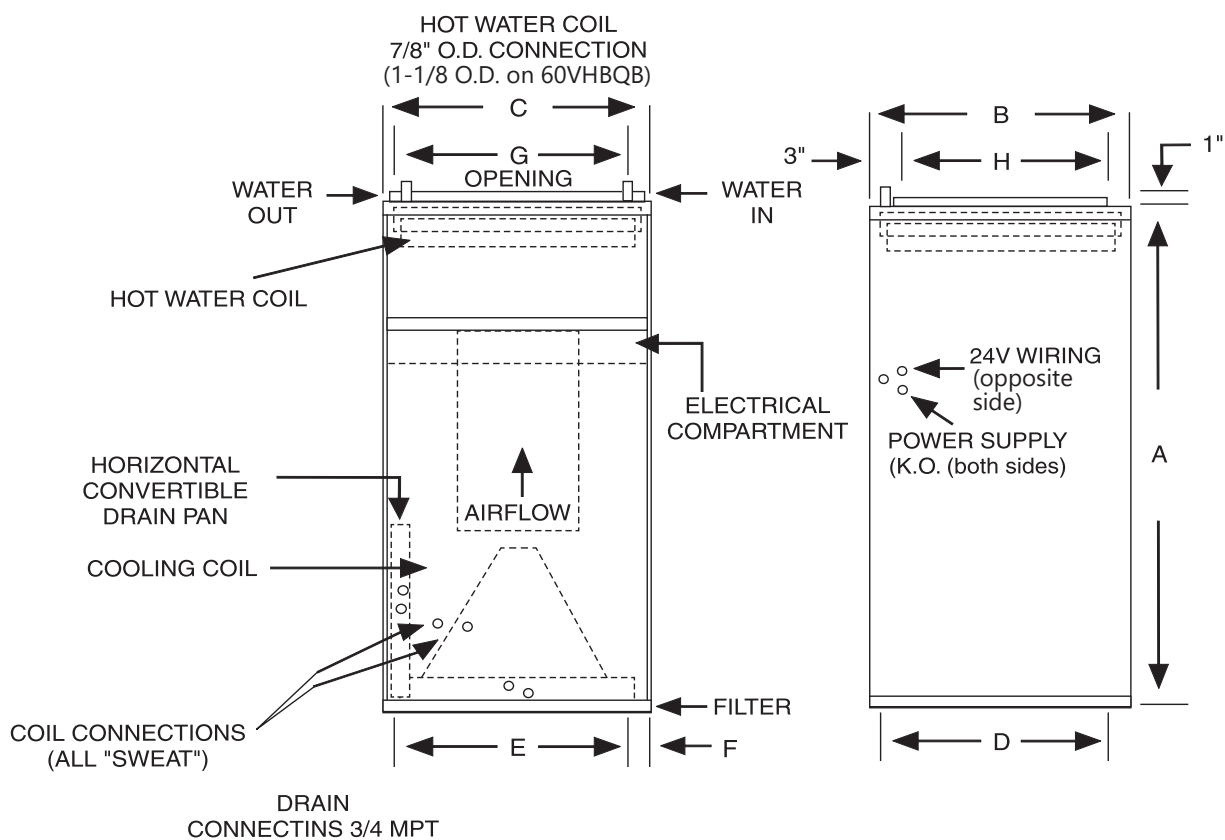
HCXQV

DATA TABLES

COOLING OR HEAT PUMP HOT WATER HEATING WITH VARIABLE SPEED MOTOR

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
24HCXQV	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
36HCXQV	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
48HCXQV	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60HCXQV	52	28	25-1/4	26-1/4	21-1/4	2	22	24	14 X 24 X 1 (2 required)

For additional sales and technical information on variable speed motors, visit www.thedealertools.com
Digital thermostats for these units must have a "C" terminal.



COIL CONNECTIONS		
UNIT SIZE	LIQUID	SUCTION
24	3/8	5/8
36	3/8	3/4
46/60	1/2	7/8

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & VARIABLE SPEED MOTOR

HCXQV

DATA TABLES

COOLING OR HEAT PUMP HOT WATER HEATING WITH VARIABLE SPEED MOTOR

ELECTRICAL DATA					
UNIT MODEL	MOTOR HP (120V)	MOTOR AMPS	PUMP AMPS	MIN. CIR. AMPACITY	MAX. HACR BREAKER
24HCXQV	1/3	4.8	0.57	7	15
36HCXQV	1/2	7.3	0.57	10	15
48HCXQV	1	10.5	0.57	14	15
60HCXQV	1	11.5	0.75	15	20

HEATING PERFORMANCE DATA												
UNIT MODEL	NOMINAL COOLING BTUH	HEAT CFM	GPM (HTG.)	P.D. (FT. WTR)	BTUH (1000) AT ENTERING WATER TEMPERATURE Delta-T 20°F & GPM							
					120°F	GPM	130°F	GPM	140°F	GPM	180°F (4)	GPM
					24HCXQV	18,000/ 24,000	800 700 600 500	3.5	4.3	24.9	2.5	29.9
22.9	2.3	27.4	2.7	32.0						3.2	50.3	5.0
20.7	2.1	24.9	2.5	29.0						2.9	45.6	4.6
18.5	1.9	22.1	2.2	25.8						2.6	40.6	4.1
36HCXQV	30,000/ 36,000	1200 1050 900 750	3.5	5.0	33.4	3.3	40.0	4.0	46.7	4.7	73.4	7.3
					30.8	3.1	36.9	3.7	43.1	4.3	67.7	6.8
					28.1	2.8	33.8	3.4	39.4	3.9	61.9	6.2
					25.0	2.5	30.1	3.0	35.1	3.5	55.1	5.5
48HCXQV	42,000/ 48,000	1600 1400 1200 1000	3.5	3.4	47.0	4.7	56.4	5.6	65.8	6.6	103.4	10.3
					43.4	4.3	52.1	5.2	60.8	6.1	95.5	9.6
					39.2	3.9	47.1	4.7	54.9	5.5	86.3	8.6
					34.7	3.5	41.6	4.2	48.6	4.9	76.3	7.6
60HCXQV	48,000/ 60,000	2000 1800 1600 1400	7	8.8	64.8	6.5	77.8	7.8	90.7	9.1	142.6	14.3
					59.5	6.0	71.3	7.1	83.2	8.3	130.8	13.1
					53.5	5.4	64.2	6.4	74.9	7.5	117.7	11.8
					47.1	4.7	56.6	5.7	66.0	6.6	103.7	10.4

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.

ACCESSORIES

FREEZE PROTECTOR	
KIT NUMBER	FOR
941-1	18 - H

HCX SERIES

HEAT PUMP OR DX W/STANDARD PUMP & VARIABLE SPEED MOTOR

HCXQV

DATA TABLES

AIRFLOW DATA															
MODEL	OPERATING MODE	THERMOSTAT TERMINALS "X" ENERGIZED TERMINAL						CONTROL BOARD SELECT TAPS							
		Y1	Y2	HUM	G	O	W1	COOL TAP				HEAT TAP			
								A	B	C	D	A	B	C	D
24HCXQV (1.5 / 2 TON)	COOLING														
	SINGLE STAGE		X		X	X		800	720	600	525				
	TWO STAGE	X	X		X	X		560/800	500/720	420/600	370/525				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		640	575	480	420				
	TWO STAGE	X	X	X	X	X		450/640	400/575	335/480	295/420				
	CONTINUOUS BLOWER				X			400	360	300	260				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			800	720	600	525				
	TWO STAGE	X	X		X			560/800	500/720	420/600	370/525				
HEATING (NON-HT. PUMP)															
HEATING						X						750	680	580	500
36HCXQV (1.5 / 3 TON)	COOLING														
	SINGLE STAGE		X		X	X		1200	1050	950	850				
	TWO STAGE	X	X		X	X		840/1200	735/1050	665/950	595/850				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		960	840	760	680				
	TWO STAGE	X	X	X	X	X		67 /960	590/840	530/760	475/680				
	CONTINUOUS BLOWER				X			600	525	475	425				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			1200	1050	950	850				
	TWO STAGE	X	X		X			840/1200	735/1050	665/950	595/850				
HEATING (NON-HT. PUMP)															
HEATING						X						1150	1000	900	800
48HCXQV	COOLING														
	SINGLE STAGE		X		X	X		1600	1400	1250	1100				
	TWO STAGE	X	X		X	X		1120/1600	980/1400	875/1250	770/1100				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		1280	1120	1000	880				
	TWO STAGE	X	X	X	X	X		895/1280	785/1120	700/1000	615/880				
	CONTINUOUS BLOWER				X			800	700	625	550				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			1600	1400	1250	1100				
	TWO STAGE	X	X		X			1120/1600	980/1400	875/1250	770/1100				
HEATING (NON-HT. PUMP)															
HEATING						X						1500	1300	1150	1000
60HCXQV	COOLING														
	SINGLE STAGE		X		X	X		2000	1800	1600	1400				
	TWO STAGE	X	X		X	X		1400/2000	1260/1800	1120/1600	980/1440				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		1600	1440	1280	1120				
	TWO STAGE	X	X	X	X	X		1120/1600	1010/1440	895/1280	785/1120				
	CONTINUOUS BLOWER				X			1000	900	800	700				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			2000	1800	1600	1400				
	TWO STAGE	X	X		X			1400/2000	1260/1800	1120/1600	980/1440				
HEATING (NON-HT. PUMP)															
HEATING						X						1850	1650	1500	1300

Airflow shown are at standard air conditions, dry coil at 120 volts. Max. ext. static pressure is 0.50" wtr

NOTES:

The cooling and heating speed taps are factory set on "A".

The delay profile is factory set on "A" (Arid setting).

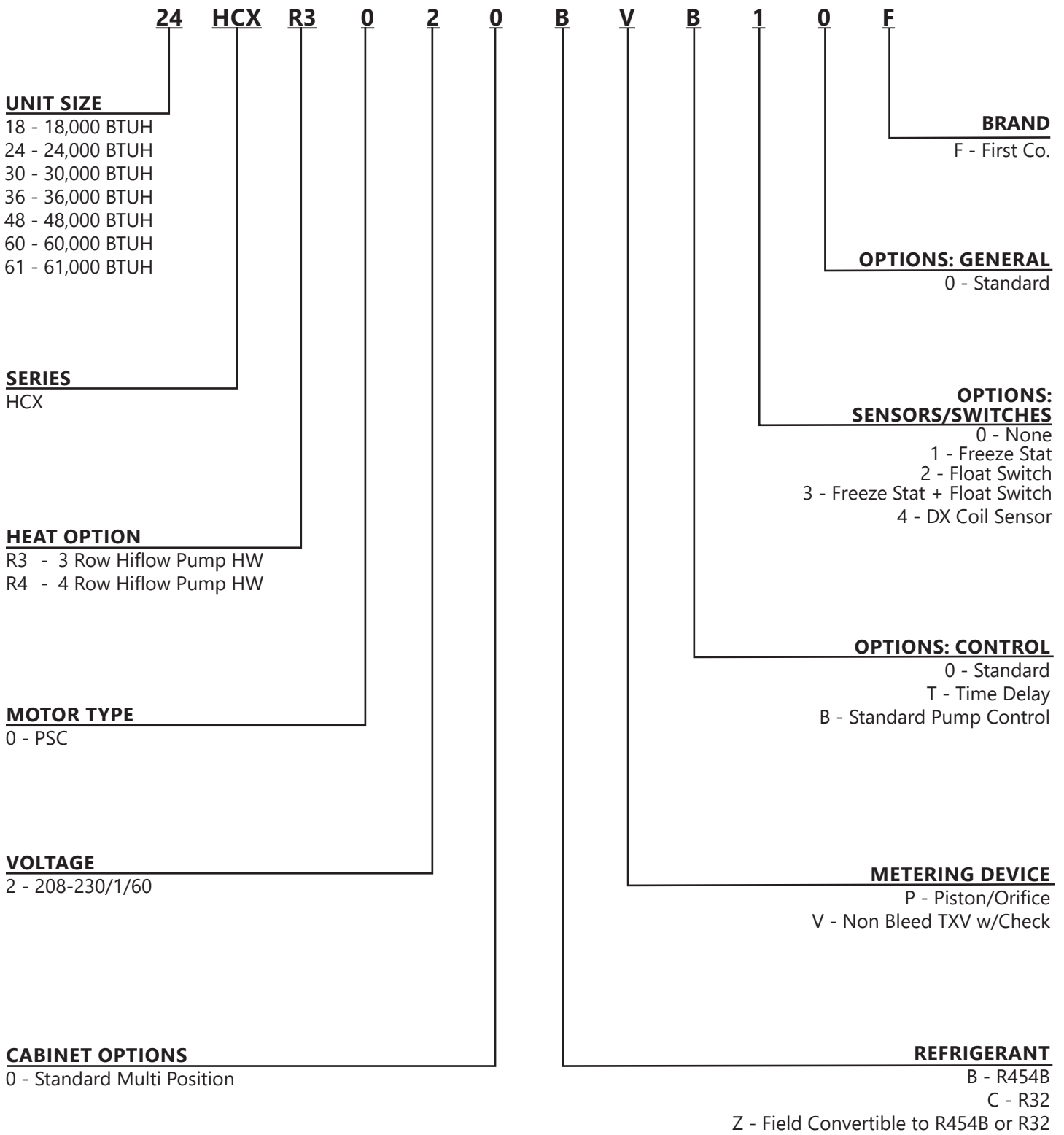
The adjust profile is factory set on "Normal."

Adjust profile (+) will increase airflow by 10%, while tap (-) will decrease airflow by 10%

HCX SERIES

HEAT PUMP OR DX – W/HI FLOW PUMP & PSC

HCXR



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

HCX SERIES

HEAT PUMP OR DX – W/HI FLOW PUMP & PSC

HCXR
DATA TABLES

HI FLOW PUMP WITH PSC MOTOR

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

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

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

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	140°F	GPM	160°F	GPM	180°F	GPM
18HCXR*0	18,000	USM318AP	4.0	650	19.7	2.0	27.6	2.8	35.5	3.6	43.4	4.3
24HCXR*0	24,000	USM424AP	4.0	800	22.2	2.2	31.1	3.1	40.0	4.0	48.9	4.9
30HCXR*0	30,000	USM330AP	4.6	1000	26.4	2.6	37.0	3.7	47.6	4.8	58.1	5.8
36HCXR*0	36,000	USM436A	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	USM348AP	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

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.

HCX SERIES

HEAT PUMP OR DX – W/HI FLOW PUMP & PSC

HCXR
DATA TABLES

HI FLOW PUMP WITH PSC MOTOR

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

ACCESSORIES

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

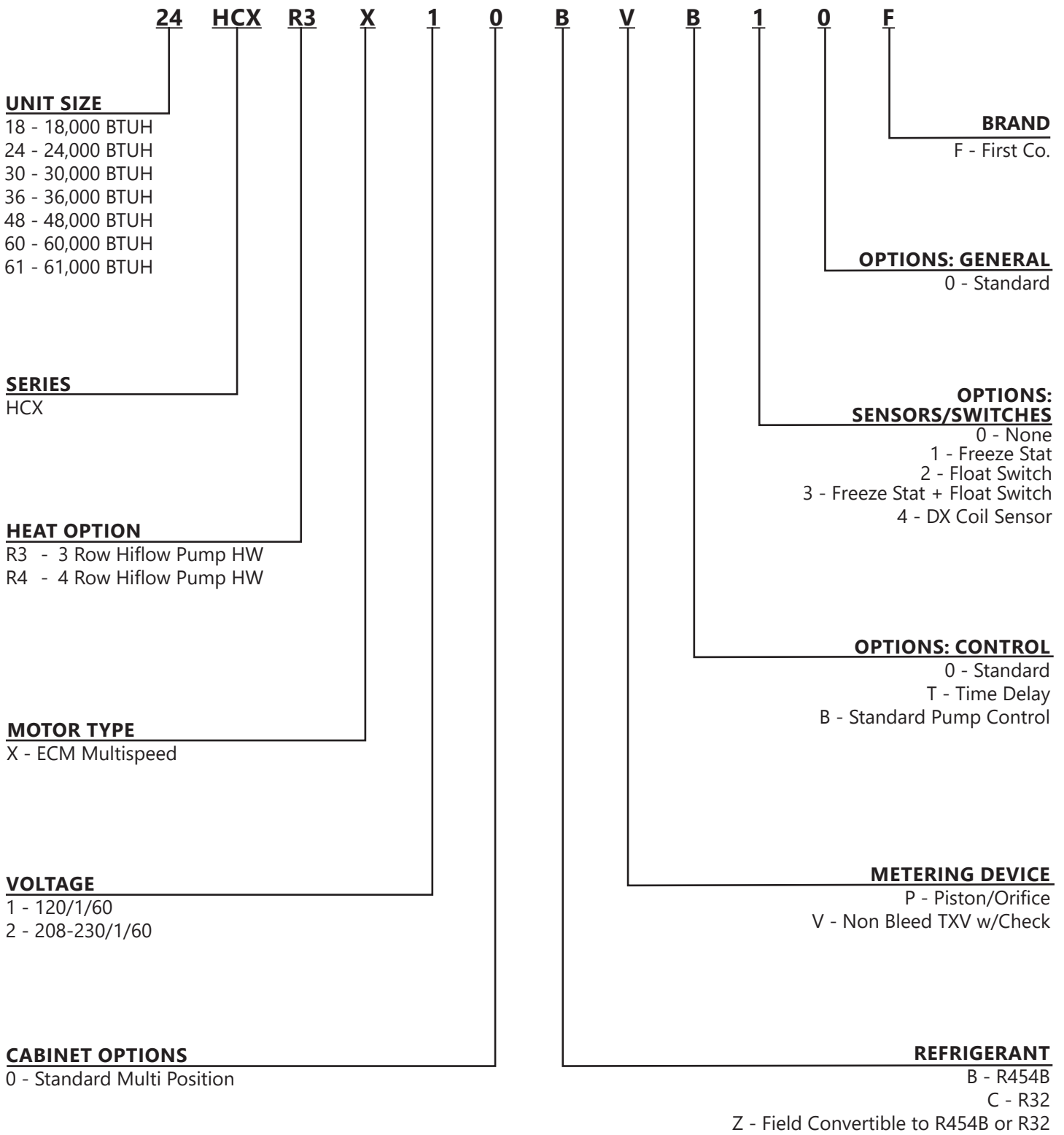
NOTES:

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

HCX SERIES

HCXRX

HEAT PUMP OR DX – W/HI FLOW PUMP & ECM MOTOR



HCXRX

HI FLOW PUMP WITH ECM MOTOR

The HCXRX air handler is designed for use with today's high efficiency split-system condensing units and heat pumps. All HCXRX 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 HCXRX 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 HCXRX offers greater installation flexibility, costs less to install, and is less complicated and easier to service.

The HCXRX 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.

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 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 HCXRX 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 TXVs 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-thermosiphon 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).

HCX SERIES

HEAT PUMP OR DX – W/HI FLOW PUMP & ECM MOTOR

HCXRX

DATA TABLES

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°F to 110°F) is then circulated throughout the duct system and into the home. The water loses only about 15°F of temperature while it circulates through the coil and is then returned to the water heater to be reheated.

ACCESSORIES

FIELD INSTALLED

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

NOTES:

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

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
48HCXR*X	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 x 25 x 1

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

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

HCX SERIES

HEAT PUMP OR DX – W/HI FLOW PUMP & ECM MOTOR

H CXRX

DATA TABLES

HI FLOW PUMP WITH ECM MOTOR

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	3.4	40.2	4.0	46.9	4.7
					37.5	3.8	45.0	4.5	52.5	5.3

(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.

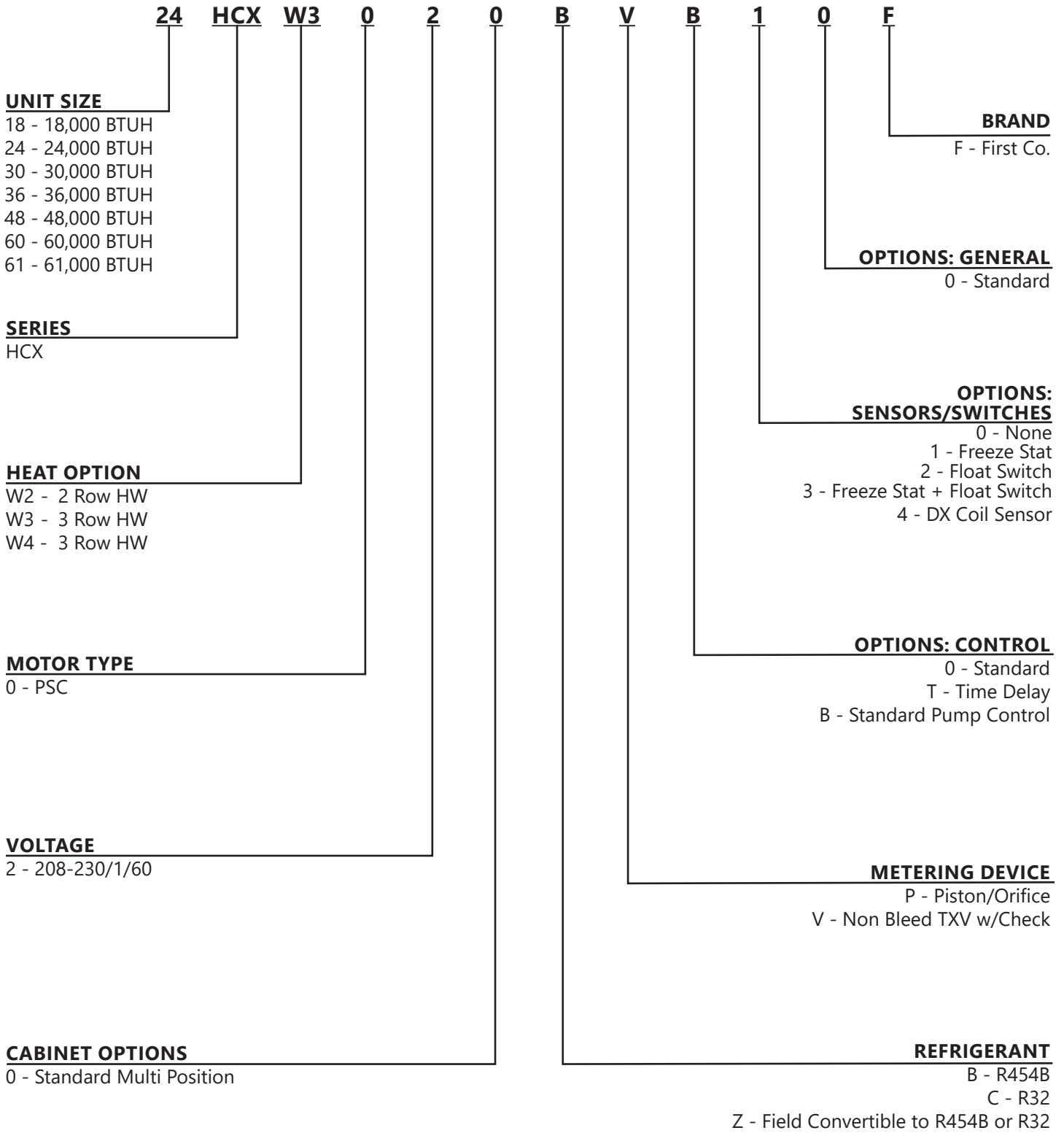
BLOWER DATA					UPFLOW / HORIZONTAL ONLY					
UNIT MODEL	MOTOR HP-AMP (120V)	BHP	NOMINAL AMPS	SPEED TAPS	CFM vs. EXTERNAL STATIC PRESSURE					
					0.05	0.10	0.20	0.30	0.40	0.50
18HCXR*X	1/3-4.8	0.33	3.2	3	970	940	870	800	730	630
		0.18	2.1	2	770	750	700	660	620	580
		0.13	1.4	1	640	620	580	530	480	430
24HCXR*X	1/3-4.8	0.33	3.2	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
30HCXR*X	1/2-6.8	0.50	4.8	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
36HCXR*X	1/2-6.8	0.50	4.8	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
48HCXR*X	1-10.9	1.00	8.5	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

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

HCX SERIES

HCXW

HEAT PUMP OR DX - W/HOT WATER COIL & PSC MOTOR



HCXW

The **HCXW** 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 **HCXW** 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 SEER2**, depending on the outdoor condensing unit or heat pump model.

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.

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 TXV (cooling or heat pump operation) (non-bleed type)
- High efficiency standard ECM motor
- Manual Air Vent on hot water coil
- Blower door shut-off switch [except 60HCXW (ECM)]
- 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

- 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)

HCX SERIES

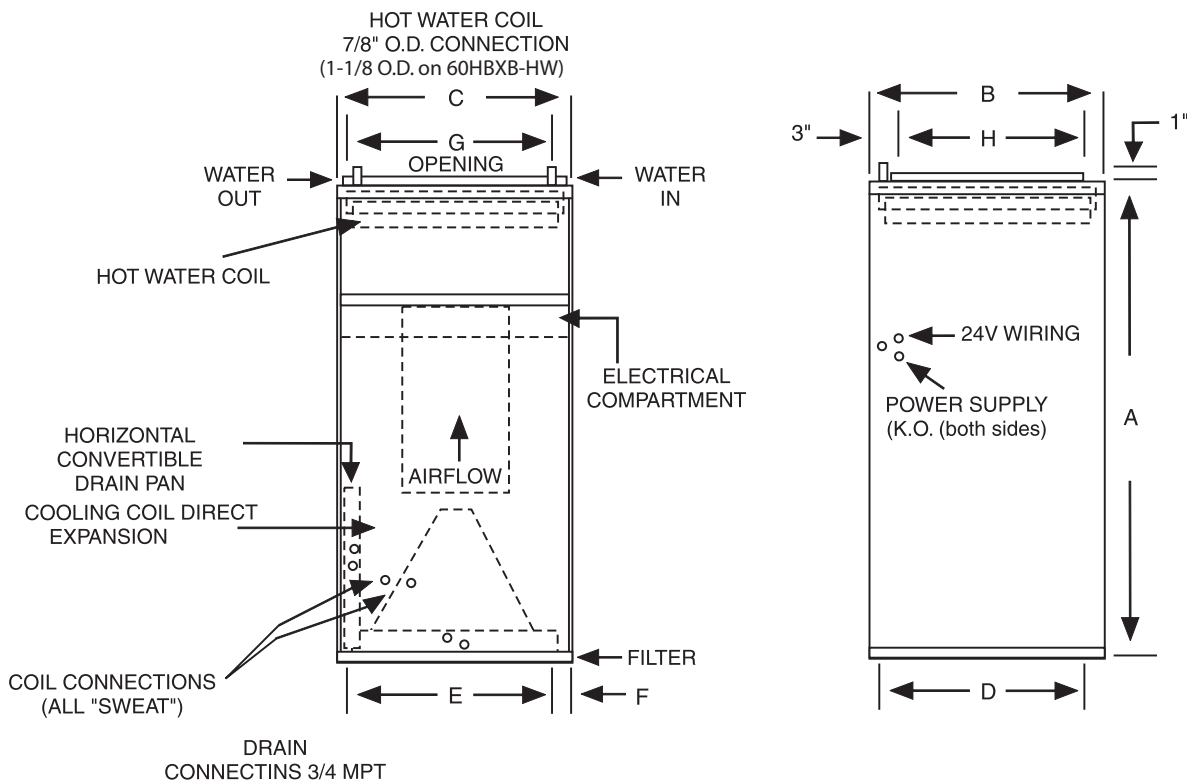
HEAT PUMP OR DX – W/HOT WATER COIL & PSC MOTOR

HCXW

DATA TABLES

DX COOLING / HW HEATING WITH PSC MOTOR

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
18HCXW*0 24HCXW*0	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
30HCXW*0 36HCXW*0	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
42HCXW*0 48HCXW*0	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60HCXW*0	52	28	25-1/4	26-1/2	21-1/4	2	22	24	14 X 24 X 1 (2 required)
61HCXW*0	58	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

HCX SERIES

HEAT PUMP OR DX – W/HOT WATER COIL & PSC MOTOR

HCXW

DATA TABLES

DX COOLING / HW HEATING WITH PSC MOTOR

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
18HCXW*0	1/5 - 2.8	3.5	15	HIGH	810	780	715	650	580	500
				MED.	680	655	600	545	490	420
				MED. LOW	530	505	460	415	360	295
				LOW	350	325	270	220	160	---
24HCXW*0	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
30HCXW*0	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
36HCXW*0	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
42HCXW*0 48HCXW*0	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
60HCXW*0	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
61HCXW*0	1-11.5	14.38	15	HIGH	2180	2145	2075	2000	1915	1830
				MED.	1885	1860	1805	1725	1635	1540
				LOW	1575	1555	1505	1450	1380	1275

NOTES:

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

ACCESSORIES

FLOW CONTROL MODULE	
PART NUMBER	FOR
940-2CV	18-60HCXW*0

NOTE:

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

FREEZE PROTECTOR	
KIT NUMBER	FOR
941-1	18 - 60HCXW*0

HCX SERIES

HEAT PUMP OR DX – W/HOT WATER COIL & PSC MOTOR

HCXW

DATA TABLES

DX COOLING / HW HEATING

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		
18HCXW*0	18,000	HIGH	650	2.0	18.0	1.8	25.2	2.5	32.4	3.2	39.6	4.0		
				1.1	17.2	1.7	24.1	2.4	31.0	3.1	37.9	3.8		
				0.5	15.9	1.6	22.3	2.2	28.7	2.9	35.1	3.5		
		MED.	550	2.0	16.3	1.6	22.9	2.3	29.4	2.9	29.4	2.9	35.9	3.6
				1.1	15.7	1.6	22.0	2.2	28.2	2.8	34.5	3.5		
				0.5	14.6	1.5	20.5	2.1	26.3	2.6	32.2	3.2		
		MED. LOW	420	2.0	14.0	1.4	19.6	2.0	25.2	2.5	30.8	3.1	30.8	3.1
				1.1	13.5	1.4	18.9	1.9	24.3	2.4	29.7	3.0		
				0.5	12.7	1.3	17.8	1.8	22.9	2.3	27.9	2.8		
24HCXW*0	24,000	HIGH	800	2.0	20.3	2.0	28.5	2.9	36.6	3.7	44.7	4.5		
				1.1	19.4	1.9	27.1	2.7	34.9	3.5	42.7	4.3		
				0.5	17.9	1.8	25.0	2.5	32.2	3.2	39.3	3.9		
		MED.	725	2.0	19.2	1.9	26.9	2.7	34.6	3.5	42.3	4.2		
				1.1	18.4	1.8	25.7	2.6	33.1	3.3	40.4	4.0		
				0.5	17.0	1.7	23.8	2.4	30.6	3.1	37.4	3.7		
		LOW	650	2.0	18.0	1.8	25.2	2.5	32.4	3.2	39.6	4.0		
				1.1	17.2	1.7	24.1	2.4	31.0	3.1	37.9	3.8		
				0.5	15.9	1.6	22.3	2.2	28.7	2.9	35.1	3.5		
30HCXW*0	30,000	HIGH	1000	7.5	25.9	2.6	36.3	3.6	46.7	4.7	57.0	5.7		
				3.6	24.4	2.4	34.2	3.4	44.0	4.4	53.8	5.4		
				1.0	21.1	2.1	29.6	3.0	38.0	3.8	46.5	4.7		
		MED.	780	7.5	22.4	2.2	31.3	3.1	40.3	4.0	49.2	4.9		
				3.6	21.2	2.1	29.7	3.0	38.2	3.8	46.6	4.7		
				1.0	18.5	1.9	26.0	2.6	33.4	3.3	40.8	4.1		
		LOW	625	7.5	19.6	2.0	27.5	2.8	35.3	3.5	43.1	4.3		
				3.6	18.7	1.9	26.2	2.6	33.7	3.4	41.1	4.1		
				1.0	16.6	1.7	23.3	2.3	29.9	3.0	36.5	3.7		
36HCXW*0	36,000	HIGH	1200	7.5	28.8	2.9	40.3	4.0	51.8	5.2	63.3	6.3		
				3.6	27.0	2.7	37.9	3.8	48.7	4.9	59.5	6.0		
				1.0	23.2	2.3	32.4	3.2	41.7	4.2	50.9	5.1		
		MED.	1140	7.5	28.0	2.8	39.2	3.9	50.4	5.0	61.5	6.2		
				3.6	26.3	2.6	36.9	3.7	47.4	4.7	57.9	5.8		
				1.0	22.6	2.3	31.7	3.2	40.8	4.1	49.8	5.0		
		LOW	1070	7.5	27.0	2.7	37.8	3.8	48.6	4.9	59.4	5.9		
				3.6	25.5	2.6	35.7	3.6	45.8	4.6	56.0	5.6		
				1.0	22.0	2.2	30.8	3.1	39.6	4.0	48.4	4.8		
48HCXW*0	48,000	HIGH	1660	3.8	48.2	4.8	67.5	6.8	86.8	8.7	106.1	10.6		
				2.1	45.5	4.6	63.7	6.4	81.9	8.2	100.1	10.0		
				0.8	40.7	4.1	57.1	5.7	73.4	7.3	89.7	9.0		
		MED.	1460	3.8	44.7	4.5	62.6	6.3	80.5	8.1	98.3	9.8		
				2.1	42.3	4.2	59.2	5.9	76.1	7.6	93.0	9.3		
				0.8	38.0	3.8	59.3	5.9	68.5	6.9	83.7	8.4		
		LOW	1180	3.8	39.1	3.9	54.8	5.5	70.4	7.0	86.1	8.6		
				2.1	37.1	3.7	52.0	5.2	66.9	6.7	81.7	8.2		
				0.8	33.7	3.4	47.2	4.7	60.7	6.1	74.2	7.4		
60HCXW*0 61HCXW*0	60,000	HIGH	1980	5.1	58.5	5.9	81.9	8.2	105.3	10.5	128.6	12.9		
				3.3	56.1	5.6	78.5	7.9	100.9	10.1	123.4	12.3		
				1.9	52.5	5.3	73.5	7.4	94.5	9.5	115.5	11.6		
		MED.	1710	5.1	53.6	5.4	75.1	7.5	96.5	9.7	117.9	11.8		
				3.3	51.6	5.1	72.2	7.2	92.8	9.3	113.5	11.4		
				1.9	48.5	4.9	68.0	6.8	87.4	7.4	106.8	10.7		
		LOW	1430	5.1	47.9	4.8	67.0	6.7	86.2	8.6	105.3	10.5		
				3.3	46.1	4.6	64.6	6.5	83.1	8.3	101.5	10.2		
				1.9	43.6	4.4	61.0	6.1	78.5	7.9	95.9	9.6		

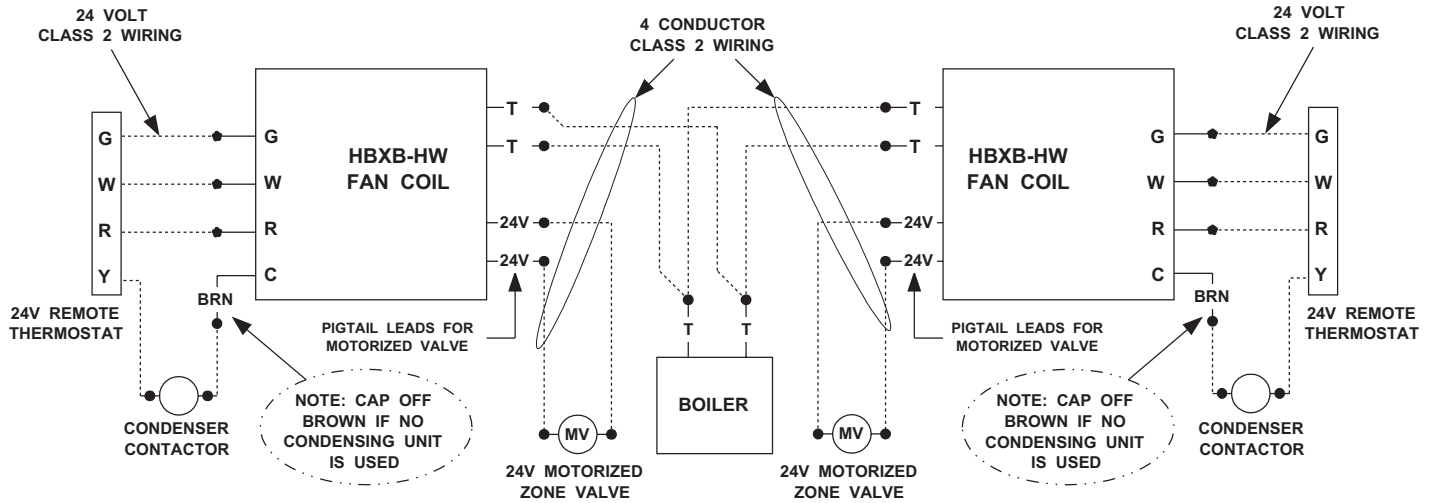
NOTES:

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

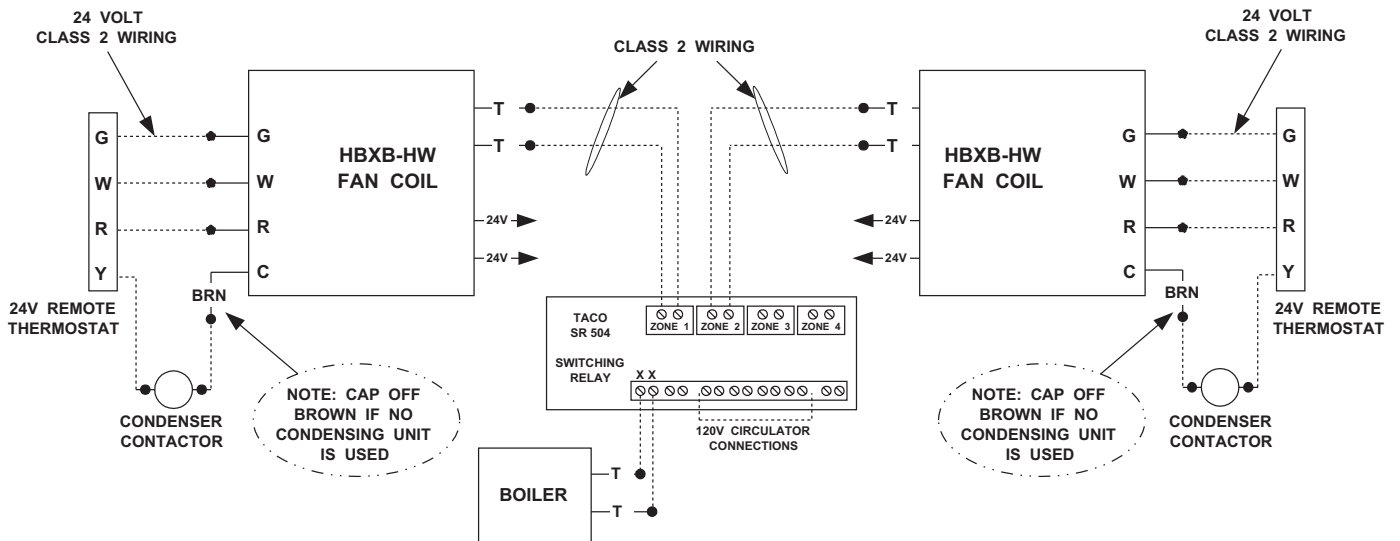
APPLICATION GUIDELINES FOR BOILERS

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

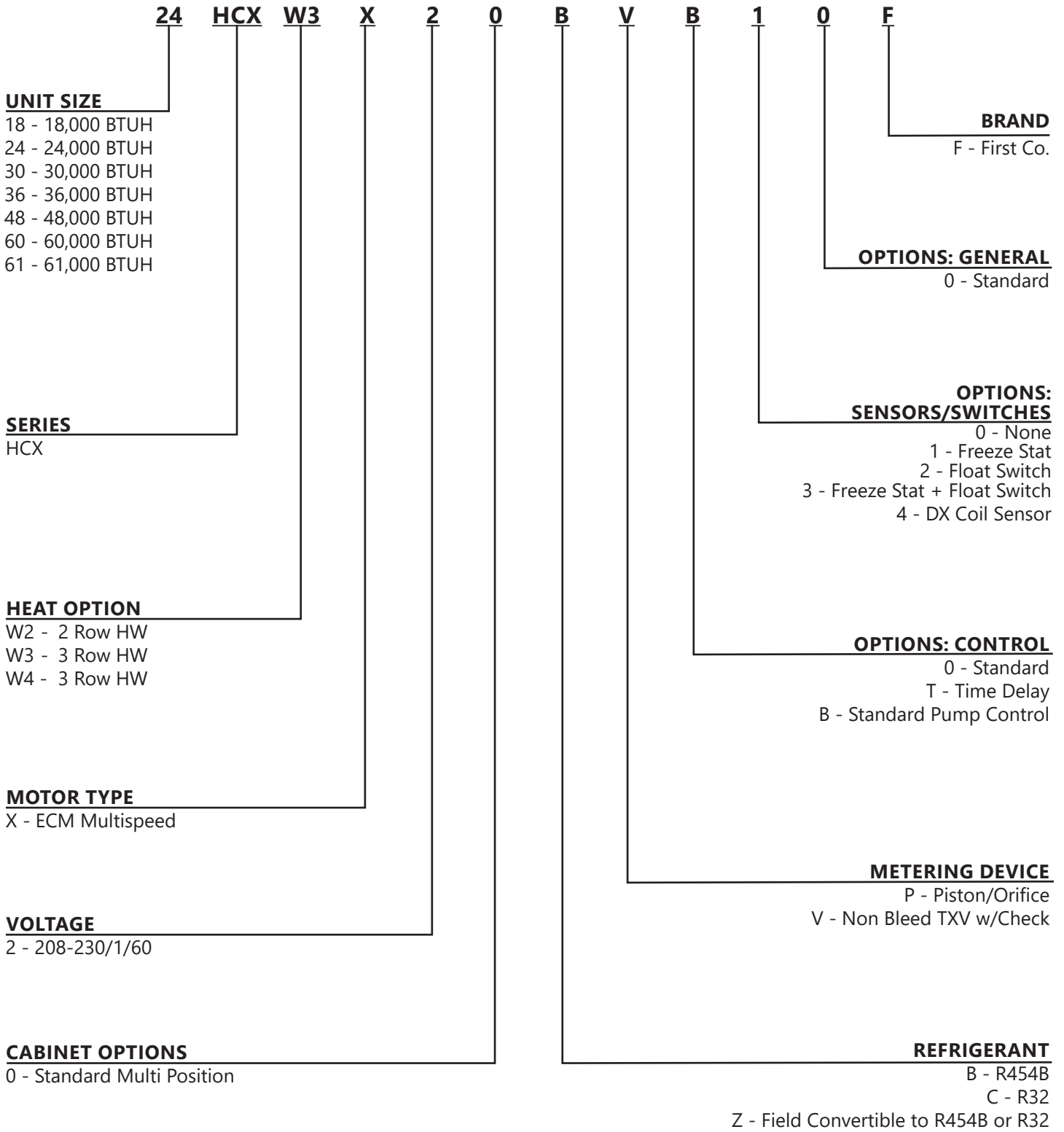


Typical Wiring Schematic
For Multiple Zone Connections to TACO SR-504/506 Switching Relay

HCX SERIES

HCXWX

HEAT PUMP OR DX – W/HOT WATER COIL & ECM MOTOR



HCXWX

The **HCXWX** 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 **HCXWX** 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 **HCXWX** 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 **HCXWX** air handler.

Cooling efficiencies are up to **16 SEER2**, depending on the outdoor condensing unit or heat pump model.

These fan coils are compatible with any source of hot water that does not 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.
- Factory or field installed TXV (cooling or heat pump operation) (non-bleed type)
- High efficiency standard ECM motor
- Manual Air Vent on hot water coil
- Blower door shut-off switch [except 60HCXW (ECM)]
- 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

HCX SERIES

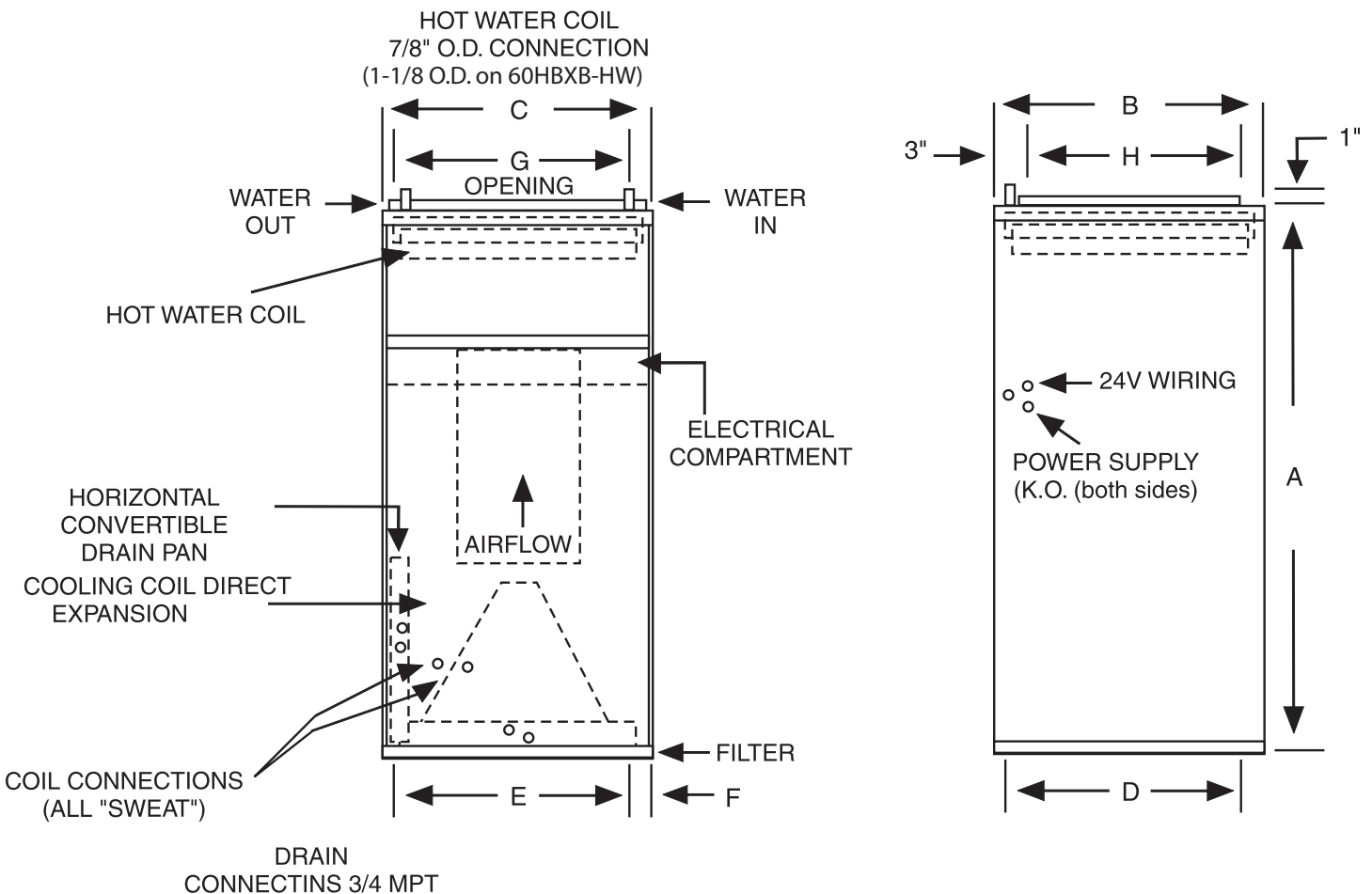
HEAT PUMP OR DX – W/HOT WATER COIL & ECM MOTOR

HCXWX

DATA TABLES

DX COOLING / HW HEATING WITH ECM MOTOR

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
18HCXW*X 24HCXW*X	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
30HCXW*X 36HCXW*X	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
42HCXW*X 48HCXW*X	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60HCXW*X	52	28	25-1/4	26-1/2	21-1/4	2	22	24	14 X 24 X 1 (2 required)
61HCXW*X	58	28	25-1/4	26-1/2	21-1/4	2	22	24	14 X 24 X 1 (2 required)



HCX SERIES

HEAT PUMP OR DX – W/HOT WATER COIL & ECM MOTOR

HCXWX

DATA TABLES

DX COOLING / HW HEATING WITH ECM MOTOR

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
18HCXW*X	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
24HCXW*X	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
30HCXW*X	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
36HCXW*X	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
42HCXW*X 48HCXW*X	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
60HCXW*X 61HCXW*X	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

NOTES:

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

ACCESSORIES

FLOW CONTROL MODULE	
PART NUMBER	FOR
940-2CV	18-60HCXW*X

NOTE:

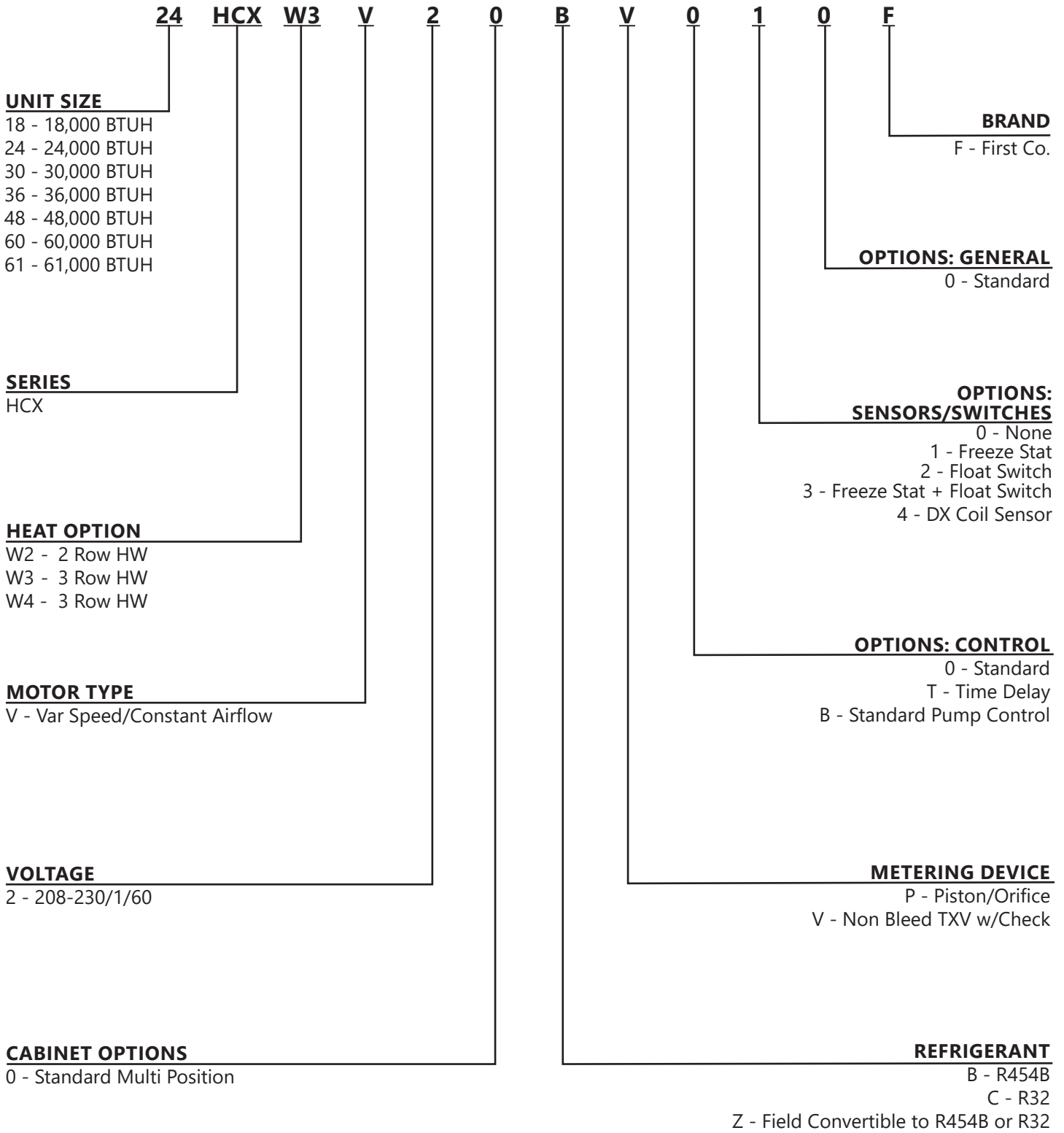
Flow Control Module is required when connecting to individual Tankless Water Heaters. Contact factory for assistance.

FREEZE PROTECTOR	
KIT NUMBER	FOR
941-1	18 - 60HCXW*X

HCX SERIES

HCXWV

HEAT PUMP OR DX W/HOT WATER COIL & VARIABLE SPEED MOTOR



HCXWV

The HCXWV motor automatically adjusts its torque and speed to maintain a preprogrammed level of constant airflow over a wide range of external static pressures. This variable speed technology offers better indoor air quality, more precise humidity control, quieter operation, consistent indoor air temperature, and lower utility bills.

High Efficiency - At full load conditions the **HCXWV** motor is 20% more efficient than an induction motor and at constant fan speed it consumes only **60-80 watts** of power compared to 400 watts for a standard induction motor. In addition, the **HCXWV** includes a high efficiency "A" coil with factory installed TXV for precise refrigerant control.

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.

STANDARD FEATURES

QUIET OPERATION

The versatile **HCXWV** motor quietly "ramps up" when the unit is turned on and "ramps down" when the thermostat is satisfied, eliminating the annoying sounds of changing airflow.

SELF-REGULATING CONSTANT AIRFLOW

The **HCXWV** motor is factory programmed to maintain a predetermined level of airflow over a wide range of external static pressures, ensuring optimum system performance and whole-house comfort. The benefits of constant fan operation are:

- Consistent air distribution (and temperature) throughout the home.
- Better indoor air quality (further improved with the addition of a high efficiency filter) - This allows the air to be filtered without excessive drafts and without sacrificing efficiency.
- Better humidity control - The HCXWV is designed to extract much more moisture from the air than a conventional system by slowing the airflow over the cooling coil. The result is an improved summer comfort level at higher indoor temperature.

ADDITIONAL FEATURES

- Factory or field installed TXV (non-bleed type)
- Blower door safety switch (except 48/60HCXWV)
- Convenient connections for boiler or switching relay
- Hot water coil assembly slides out for easier service
- Manual air vent on hot water coil
- Attractive baked-on powder coat finish
- Fully insulated cabinet
- Primary and secondary drain connections on cooling coil
- Optional hot water coil freeze protector
- Upflow / Horizontal drain pans
- Higher efficiency pleated filter
- Compatible with most properly sized and installed zone control systems. Contact the zone control manufacturer.
- Cabinet air leakage is no more than 2% when tested in accordance with ASHRAE 193.

HCX SERIES

HEAT PUMP OR DX W/HOT WATER COIL & VARIABLE SPEED MOTOR

HCXWV

DATA TABLES

DX COOLING / HW HEATING WITH VARIABLE SPEED MOTOR

PHYSICAL DIMENSIONS									
UNIT MODEL	A	B	C	D	E	F	G	H	FILTER SIZE
24HCXWV	40	20	20	18-1/2	16	2	18	16	18 X 20 X 1
36HCXWV	42	23	20	21-1/2	16	2	18	19	20 X 22 X 1
48HCXWV	48	28	21-1/4	26-1/4	17-1/4	2	18	24	20 X 25 X 1
60HCXWV	52	28	25-1/4	26-1/4	21-1/4	2	22	24	14 X 24 X 1 (2 required)

For additional sales and technical information on variable speed motors, visit www.thedealertools.com
Digital thermostats for these units must have a "C" terminal.

COIL CONNECTIONS		
UNIT SIZE	LIQUID	SUCTION
24	3/8	5/8
36	3/8	3/4
46/60	1/2	7/8

ELECTRICAL DATA				
UNIT MODEL	MOTOR HP (120V)	MOTOR AMPS	MIN. CIR. AMPACITY	MAX. HACR BREAKER
24HCXWV	1/3	4.8	6.0	15
36HCXWV	1/2	7.3	9.1	15
48HCXWV	1	10.5	13.1	15
60HCXWV	1	11.5	14.4	15

For additional sales and technical information on variable speed motors, visit www.thedealertools.com
Digital thermostats for these units must have a "C" terminal.

ACCESSORIES

FIELD INSTALLED

FREEZE PROTECTOR	
KIT NUMBER	FOR
941-1	18 - H

FLOW CONTROL MODULES	
PART NUMBER	FOR
940-3CV	18 - 48HCXWV
940-2CV	60HCXWV

NOTE:

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

HCX SERIES

HEAT PUMP OR DX W/HOT WATER COIL & VARIABLE SPEED MOTOR

HCXWV

DATA TABLES

DX COOLING / HW HEATING WITH VARIABLE SPEED MOTOR

HEATING PERFORMANCE DATA											
UNIT MODEL	NOM. COOL-ING BTUH	HEAT CFM	P.D. (FT. WATER)	BTUH (1000) AT ENTERING WATER TEMPERATURE Delta -T 20°F and GPM							
				120°F	GPM	140°F	GPM	160°F	GPM	180°F	GPM
24HCXWV	18,000/ 24,000	800	1.13	20.3	2.0	28.5	28.5	36.6	3.7	44.7	4.5
			0.51	19.4	1.9	27.1	27.1	34.9	3.5	42.7	4.3
			0.13	17.9	1.8	25.0	25.0	32.2	3.2	39.3	3.9
		700	1.13	18.8	1.9	26.4	26.4	33.9	3.4	41.5	4.2
0.51	18.0		1.8	25.2	25.2	32.4	3.2	39.6	4.0		
0.13	16.7		1.7	23.4	23.4	30.1	3.0	36.8	3.7		
600	1.13	17.2	1.7	24.1	24.1	30.9	3.1	37.8	3.8		
	0.51	16.5	1.7	23.0	23.0	29.6	3.0	36.2	3.6		
	0.13	15.3	1.5	21.4	21.4	27.6	2.8	33.7	3.4		
500	1.13	15.5	1.6	21.6	21.6	27.8	2.8	34.0	3.4		
	0.51	14.9	1.5	20.8	20.8	26.8	2.7	32.7	3.3		
	0.13	13.9	1.4	19.5	19.5	25.1	2.5	30.6	3.1		
36HCXWV	30,000/ 36,000	1200	7.55	28.8	2.9	40.3	40.3	51.8	5.2	63.3	6.3
			3.64	27.0	2.7	37.9	37.9	48.7	4.9	59.5	6.0
			1.04	23.2	2.3	32.4	32.4	41.7	4.2	50.9	5.1
		1050	7.55	26.6	2.7	37.3	37.3	48.0	4.8	58.6	5.9
3.64	25.1		2.5	35.1	35.1	45.2	4.5	55.2	5.5		
1.04	21.6		2.2	30.2	30.2	38.9	3.9	47.5	4.8		
900	7.55	24.4	2.4	34.1	34.1	43.9	4.4	53.6	5.4		
	3.64	23.1	2.3	32.3	32.3	41.5	4.2	50.8	5.1		
	1.04	20.1	2.0	28.2	28.2	36.2	3.6	44.2	4.4		
750	7.55	21.9	2.2	30.6	30.6	39.3	3.9	48.1	4.8		
	3.64	20.7	2.1	29.0	29.0	37.3	3.7	45.6	4.6		
	1.04	18.2	1.8	25.5	25.5	32.7	3.3	40.0	4.0		
48HCXWV	42,000/ 48,000	1600	2.90	47.2	4.7	66.0	66.0	84.9	8.5	103.7	10.4
			1.40	44.5	4.5	62.3	62.3	80.0	8.0	97.8	9.8
			0.41	39.8	4.0	55.7	55.7	71.7	7.2	87.6	8.8
		1400	2.90	43.6	4.4	61.0	61.0	78.5	7.9	95.9	9.6
1.40	41.3		4.1	57.8	57.8	74.3	7.4	90.8	9.1		
0.41	37.2		3.7	52.1	52.1	67.0	6.7	81.9	8.2		
1200	2.90	39.5	4.0	55.4	55.4	71.2	7.1	87.0	8.7		
	1.40	37.5	3.8	52.5	52.5	67.5	6.8	82.6	8.3		
	0.41	34.0	3.4	47.6	47.6	61.3	6.1	74.9	7.5		
1000	2.90	35.1	3.5	49.2	49.2	63.2	6.3	77.3	7.7		
	1.40	33.4	3.3	46.8	46.8	60.2	6.0	73.5	7.4		
	0.41	30.4	3.0	42.6	42.6	54.8	5.5	67.0	6.8		
60HCXWV	48,000/ 60,000	2000	5.15	58.8	5.9	82.3	82.3	105.9	106	129.4	12.9
			3.33	56.4	5.6	78.9	78.9	101.5	102	124.1	12.4
			1.86	52.8	5.3	73.9	73.9	95.0	9.5	116.1	11.6
		1750	5.15	54.4	5.4	76.1	76.1	97.9	9.8	119.6	12.0
3.33	52.3		5.2	73.2	73.2	94.1	9.4	115.0	11.5		
1.86	49.2		4.9	68.8	68.8	88.5	8.9	108.2	10.8		
1500	5.15	49.3	4.9	69.1	69.1	88.8	8.9	108.5	10.9		
	3.33	47.5	4.8	66.5	66.5	85.5	8.6	104.5	10.5		
	1.86	44.8	4.5	62.7	62.7	80.7	8.1	98.6	9.9		
1250	5.15	43.8	4.4	61.4	61.4	78.9	7.9	96.4	9.6		
	3.33	42.3	4.2	59.2	59.2	76.1	7.6	93.0	9.3		
	1.86	40.0	4.0	56.0	56.0	72.0	7.2	88.0	8.8		

NOTES:

1. Heat BTU is at 65° Entering Air Temperature.
2. Based on 20°F Delta -T Velocity not to exceed 4ft./ sec.

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

HCX SERIES

HEAT PUMP OR DX W/HOT WATER COIL & VARIABLE SPEED MOTOR

HCXWV

DATA TABLES

AIRFLOW DATA															
MODEL	OPERATING MODE	THERMOSTAT TERMINALS "X" ENERGIZED TERMINAL						CONTROL BOARD SELECT TAPS							
		Y1	Y2	HUM	G	O	W1	COOL TAP				HEAT TAP			
								A	B	C	D	A	B	C	D
24HCXWV (1.5 / 2 TON)	COOLING														
	SINGLE STAGE		X		X	X		800	720	600	525				
	TWO STAGE	X	X		X	X		560/800	500/720	420/600	370/525				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		640	575	480	420				
	TWO STAGE	X	X	X	X	X		450/640	400/575	335/480	295/420				
	CONTINUOUS BLOWER				X			400	360	300	260				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			800	720	600	525				
	TWO STAGE	X	X		X			560/800	500/720	420/600	370/525				
HEATING (NON-HT. PUMP)															
HEATING						X						750	680	580	500
36HCXWV (1.5 / 3 TON)	COOLING														
	SINGLE STAGE		X		X	X		1200	1050	950	850				
	TWO STAGE	X	X		X	X		840/1200	735/1050	665/950	595/850				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		960	840	760	680				
	TWO STAGE	X	X	X	X	X		67 /960	590/840	530/760	475/680				
	CONTINUOUS BLOWER				X			600	525	475	425				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			1200	1050	950	850				
	TWO STAGE	X	X		X			840/1200	735/1050	665/950	595/850				
HEATING (NON-HT. PUMP)															
HEATING						X						1150	1000	900	800
48HCXWV	COOLING														
	SINGLE STAGE		X		X	X		1600	1400	1250	1100				
	TWO STAGE	X	X		X	X		1120/1600	980/1400	875/1250	770/1100				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		1280	1120	1000	880				
	TWO STAGE	X	X	X	X	X		895/1280	785/1120	700/1000	615/880				
	CONTINUOUS BLOWER				X			800	700	625	550				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			1600	1400	1250	1100				
	TWO STAGE	X	X		X			1120/1600	980/1400	875/1250	770/1100				
HEATING (NON-HT. PUMP)															
HEATING						X						1500	1300	1150	1000
60HCXWV	COOLING														
	SINGLE STAGE		X		X	X		2000	1800	1600	1400				
	TWO STAGE	X	X		X	X		1400/2000	1260/1800	1120/1600	980/1440				
	COOL & DEHUMIDIFY														
	SINGLE STAGE		X	X	X	X		1600	1440	1280	1120				
	TWO STAGE	X	X	X	X	X		1120/1600	1010/1440	895/1280	785/1120				
	CONTINUOUS BLOWER				X			1000	900	800	700				
	HEAT PUMP HEATING														
	SINGLE STAGE		X		X			2000	1800	1600	1400				
	TWO STAGE	X	X		X			1400/2000	1260/1800	1120/1600	980/1440				
HEATING (NON-HT. PUMP)															
HEATING						X						1850	1650	1500	1300

Airflow shown are at standard air conditions, dry coil at 120 volts. Max. ext. static pressure is 0.50" wtr

NOTES:

- The cooling and heating speed taps are factory set on "A".
- The delay profile is factory set on "A" (Arid setting).
- The adjust profile is factory set on "Normal:"
- Adjust profile (+) will increase airflow by 10%, while tap (-) will decrease airflow by 10%

WARNING AVERTISSEMENT ADVERTENCIA
 Cancer and Reproductive Harm
 Cancer et Troubles de l'appareil reproducteur
 Cáncer y Daño Reproductivo
www.P65Warnings.ca.gov LB9057



AMERICAN-MADE. FAMILY OWNED.



FIRST CO.
P.O. BOX 270969 - DALLAS, TEXAS 75227
PH. (214) 388-5751 | FAX (214) 388-2255
WWW.FIRSTCO.COM

MARCH 2025