



## Technical Guide

### Variable Speed ECM Single Piece Multi-position Air Handlers For use with split-system cooling and heat pumps Models: JHVT Series



Due to continuous product improvement, specifications are subject to change without notice.

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#### **WARRANTY SUMMARY**

Standard 5-year limited parts warranty.

**Extended 10-year limited parts warranty** when product is registered online within 90 days of purchase for replacement or closing for new home construction.

#### Description

This fan coil line offers the ultimate in application flexibility. This unit may be used for upflow, downflow, horizontal right, or horizontal left applications.

All Johnson Controls air handlers and coils can use a TXV to provide our customers with the optimum performance and refrigerant control. Single piece air handlers are available as *Flex-coils* (without a factory-installed metering device). For added flexibility, an R-22 or R-410A TXV or piston must be field-installed to meet the requirement of the chosen refrigerant.

#### Features

**MaxAlloy™ coil** - long-life aluminum coils built to deliver lasting performance, efficiency, and reliability

**Next generation even-flow distributor** - designed for balanced refrigerant flow and even coil circuit performance

**Next generation high-efficiency blower** - delivers increased airflow and reduced blower watts by 10%, using a variable speed ECM motor

**Variable speed operation** - provides flexibility in application as well as upgraded system efficiency

**Next generation insulation and gasket design** - reduces thermal transmission paths and reduces sweating

**Electric heat kit** - 8HK field-installed series available for easy installation and service application

**Tool-less filter access** - sliding latch design provides quick and easy access

**Designed for easy installation and service** - casing size of 20.5 in., smooth sides, and rigid construction provide ease of attic access and tight applications. Front facing components, slide out blower, laser cut knock outs and integrated duct flanges shorten install time.

**Cabinet air leakage** - less than 2% at 1 in. W.C. external static pressure when tested in accordance with ASHRAE Standard 193

**Long lasting quality** - structural components made of post-powder painted aluminum or galvanized steel to prevent corrosion

**Thermoset drain pan** - positive slope for drainage to reduce cause for potential mold or contaminants

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## Nomenclature

<b>Brand</b>	<b>J</b>	<b>J</b> = JCI air handler
<b>Type</b>	<b>H</b>	<b>H</b> = one piece
<b>Motor type</b>	<b>V</b>	<b>V</b> = variable speed ECM <b>E</b> = standard ECM <b>P</b> = PSC
<b>Stage</b>	<b>T</b>	<b>S</b> = single stage capable <b>T</b> = two stage capable <b>V</b> = variable stage capable
<b>Cabinet width</b>	<b>B</b>	<b>A</b> = 14.5 in. <b>D</b> = 24.5 in. <b>B</b> = 17.5 in. <b>E</b> = 19.6 in. <b>C</b> = 21 in. <b>F</b> = 22 in.
<b>Nominal unit capacity</b>	<b>24</b>	<b>18</b> = 1.5 ton <b>42</b> = 3.5 ton <b>24</b> = 2 ton <b>48</b> = 4 ton <b>30</b> = 2.5 ton <b>60</b> = 5 ton <b>36</b> = 3 ton
<b>Slab size</b>	<b>D</b>	<b>A</b> = 2R-14-18 <b>F</b> = 3R-24-14 <b>B</b> = 2R-16-18 <b>G</b> = 3R-28-12 <b>C</b> = 2R-20-18 <b>H</b> = 3R-32-12 <b>D</b> = 3R-20-14 <b>J</b> = 4R-28-12 <b>E</b> = 3R-22-14 <b>Z</b> = HD match only
<b>Metering device</b>	<b>XX</b>	<b>BA-BW</b> = factory TXV <b>E1-E9</b> = factory EEV <b>XX</b> = no valve <b>Y0</b> = HD match only
<b>Control strategy</b>	<b>S</b>	<b>C</b> = communicating <b>B</b> = wireless (communicating) <b>S</b> = standard (conventional) <b>W</b> = wireless (conventional)
<b>Voltage (voltage-phase-hertz)</b>	<b>2</b>	<b>2</b> = 208/230-1-60 <b>4</b> = 460-3-60 <b>3</b> = 208/230-3-60
<b>Accessories</b>	<b>N</b>	<b>S</b> = A2L sensor <b>N</b> = none (no sensor)
<b>Generation (major revision)</b>	<b>1</b>	<b>1</b> = first generation <b>2</b> = second generation
<b>Style letter (minor revision) not used for ordering</b>	<b>A</b>	<b>A</b> = style A <b>B</b> = style B

## Dimensions and duct connections

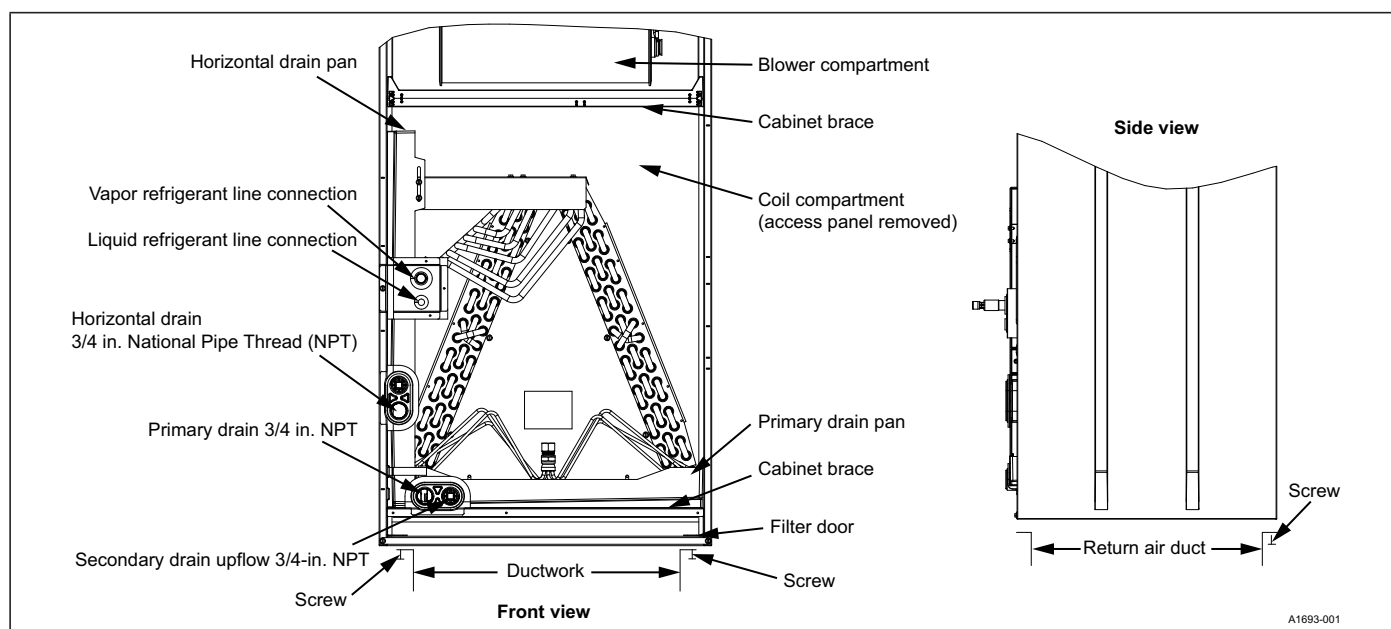


Figure 1: Duct connections

Table 1: Dimensions<sup>1</sup>

Models	Dimensions					Wiring knockouts <sup>2</sup>		Refrigerant connections line size		
	A	B	C	D	E	F	G	Liquid (in.)	Vapor (in.)	
	Height (in.)	Width (in.)	Opening widths (in.)			Power (in.)	Control (in.)			
JHVTB18B	47	17 1/2	7 1/2	16 1/2	16 1/2	7/8 (1/2) 1 3/8 (1) 1 23/32 (1 1/4)	7/8 (1/2)	3/8	3/4	
JHVTB24C	49 5/8	17 1/2	10	16 1/2	16 1/2					
JHVTB36D	49 5/8	17 1/2	10	16 1/2	16 1/2					
JHVTC36D	51	21	11 1/2	20	20					
JHVTC42F	56 3/4	21	17 1/2	20	20					
JHVTD42F	57	24 1/2	17 1/4	23 1/2	23 1/2			7/8	3/8	7/8
JHVTC48G	61 1/4	21	21 3/4	20	20					
JHVTD48G	61 1/4	24 1/2	21 3/4	23 1/2	23 1/2					
JHVTC60H	63	21	23 1/2	20	20					
JHVTD60H	63	24 1/2	23 1/2	23 1/2	23 1/2					
JHVTD60J	61 1/4	24 1/2	21 3/4	23 1/2	23 1/2					

1. All dimensions are in inches  
2. Actual size (conduit size)

## Technical data

Table 2: Coil technical data

Models	Application	Refrigeration connection type	Face area (ft <sup>2</sup> )	Rows	Fins per inch	Coil size (in.)	Tube geometry (in.)	Tube diameter (in.)	Fin type
B18B	Cooling/heat pump	Sweat	3.8	2	18	(2) 16 x 17	1 x 0.675	3/8	Lanced
B24C			4.7	2	18	(2) 20 x 17			
B36D			4.7	3	14	(2) 20 x 17			
C36D			4.7	3	14	(2) 20 x 17			
C42F			5.7	3	12	(2) 24 x 17			
D42F			5.7	3	12	(2) 24 x 17			
C48G			6.6	3	12	(2) 28 x 17			
D48G			6.6	3	12	(2) 28 x 17			
C60H			7.6	3	12	(2) 32 x 17			
D60H			7.6	3	12	(2) 32 x 17			
D60J			6.6	4	12	(2) 28 x 17			

Table 3: Cooling capacity<sup>1</sup>

Models	Rated CFM <sup>2</sup>	Entering Air Dry/Wet Bulb (°F)	MBH at evaporation temperature and corresponding R-410A pressure (°F/psig)			
			35/107.9	40/118.9	45/130.7	50/143.3
B18B	600	85/72	54.8	49.2	43.0	35.8
		80/67	44.7	39.0	32.3	25.2
		75/62	35.4	29.5	23.0	15.5
		70/57	27.0	20.9	14.2	10.9
B24C	800	85/72	62.3	56.9	49.8	42.3
		80/67	51.9	45.7	38.4	30.5
		75/62	41.7	34.6	27.9	18.4
		70/57	32.1	25.3	18.0	13.9
B36D	1200	85/72	80.2	72.1	62.8	52.0
		80/67	65.5	57.2	47.4	36.5
		75/62	52.0	43.5	33.4	22.2
		70/57	39.9	30.9	22.1	16.8
C36D	1200	85/72	80.2	72.1	62.8	52.0
		80/67	65.5	57.2	47.4	36.5
		75/62	52.0	43.5	33.4	22.2
		70/57	39.9	30.9	22.1	16.8
C42F	1400	85/72	89.7	81.6	72.4	61.9
		80/67	74.4	65.8	56.2	45.0
		75/62	60.1	50.9	40.9	27.1
		70/57	46.7	37.3	26.7	20.8
D42F	1600	85/72	95.6	87.2	77.7	66.3
		80/67	79.5	70.6	60.5	48.4
		75/62	64.5	54.9	44.2	29.6
		70/57	50.2	40.1	29.4	22.9
C48G	1600	85/72	102.4	91.9	79.8	66.3
		80/67	83.7	72.6	60.3	47.3
		75/62	66.4	54.9	43.1	29.0
		70/57	50.5	39.3	27.5	20.7
D48G	1600	85/72	109.1	98.2	85.3	71.0
		80/67	89.0	77.6	64.7	50.6
		75/62	71.1	58.9	46.2	30.4
		70/57	54.1	42.2	29.8	22.5
C60H	1600	85/72	107.0	97.1	85.4	72.2
		80/67	88.2	77.8	65.0	51.9
		75/62	70.9	59.4	47.1	31.8
		70/57	54.5	43.1	30.6	23.4
D60H	1800	85/72	107.0	97.1	85.4	72.2
		80/67	88.2	77.8	65.0	51.9
		75/62	70.9	59.4	47.1	31.8
		70/57	54.5	43.1	30.6	23.4
D60J	1800	85/72	112.1	101.6	89.2	75.4
		80/67	92.5	88.1	68.5	54.6
		75/62	74.2	62.3	49.7	33.6
		70/57	57.1	45.7	32.5	24.8

1. Actual capacity varies with the outdoor AC or HP that is used with the system.

2. Airflow is calculated for each system tonnage.

**Table 4:** Physical and electrical data - cooling only

Models		B18B	B24C	B36D	C36D	C42F	D42F
Blower - diameter x width (in.)		11 x 8	11 x 8	11 x 8	11 x 10	11 x 10	11 x 11
Motor	HP	1/3 HP	1/3 HP	1/2 HP	1/2 HP	3/4 HP	3/4 HP
	Nominal RPM	1050	1050	1050	1050	1050	1050
Voltage (V)		208/230	208/230	208/230	208/230	208/230	208/230
Full load amps at 230 V (A)		2.6	2.6	3.8	3.8	5.4	5.4
Filter <sup>1</sup>	Type	Disposable or cleanable					
	Size (in.)	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	20 x 20 x 1	20 x 20 x 1	23 x 20 x 1
Shipping/operating weight (lb)		103/95	109/101	110/102	126/116	137/127	145/134
Models		C48G	D48G	C60H	D60H	D60J	
Blower - diameter x width (in.)		11 x 10	11 x 11	11 x 10	11 x 11	11 x 11	
Motor	HP	1 HP	3/4 HP	1 HP	3/4 HP	1 HP	
	Nominal RPM	1050	1050	1050	1050	1050	
Voltage (V)		208/230	208/230	208/230	208/230	208/230	
Full load amps at 230 V (A)		7.0	5.4	7.0	5.4	7.0	
Filter <sup>1</sup>	Type	Disposable or cleanable					
	Size (in.)	20 x 20 x 1	23 x 20 x 1	20 x 20 x 1	23 x 20 x 1	23 x 20 x 1	
Shipping / operating weight (lb)		143/132	154/142	157/145	162/150	166/154	

1. Field supplied

**Table 5:** Electrical data - cooling only

Models	Motor FLA <sup>1</sup>	Minimum Circuit Ampacity (A)	MOP <sup>2</sup>
B18B/B24C	2.6	3.3	15
B36D/C36D	3.8	4.8	15
C42F/D42F/D48G/D60H	5.4	6.8	15

1. FLA = Full Load Amps

2. MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. Refer to the latest edition of the National Electric Code or in Canada the Canadian electrical Code and local codes to determine correct wire sizing.

**Table 6:** Electrical heat: minimum fan CFM for single-phase heatkits

Heater kit models <sup>1,2</sup>	Nominal kW at 240 V	Airflow configuration heat dip switch setting*	Aux heat configuration heatkit selection dip switch setting	Air handler models (CFM <sup>3</sup> )											
				B18B	B24C	B36D	C36D	C42F	D42F	C48G	D48G	C60H	D60H	D60J	
8HK(0,1)6500206	2.4	00	0001	625	650	625	825	825	825	825	825	825	825	825	
8HK(0,1)6500506	4.8	00	0010	650	650	650	825	825	825	825	825	825	825	825	
8HK(0,1)6500806	7.7	00	0011	750	800	750	1100	1100	1150	1100	1150	1100	1150	1150	
8HK(0,1)6501006	9.6	00	0100	790	950	750	1100	1100	1500	1100	1500	1100	1500	1500	
8HK(1,2)6501506	14.4	00	0101	—	650, 950	650, 975	825, 1100	825, 1100	825, 1575	825, 1100	825, 1575	825, 1100	825, 1575	825, 1700	
8HK(1,2)6502006	19.2	00	0110	—	—	750, 975	1100, 1300	1100, 1300	1325, 1575	1100, 1300	1325, 1575	1100, 1300	1325, 1575	1500, 1700	
8HK(1,2)6502506	24	00	0111	—	—	—	—	—	—	—	1325, 1650	—	1325, 1650	1500, 1800	

1. (0,1) - 0 = no service disconnect or 1 = with service disconnect

2. (1,2) - 1 = with service disconnect, no breaker jumper bar or 2 = with service disconnect and breaker jumper bar

3. For minimum fan CFM, if there are two values present, the first value is low-stage CFM (W1) and the second value is full-stage CFM (W1+W2). If higher kW/CFM is needed for low-stage, see **Table 8**.

\* To increase airflow by approximately 20%, adjust the HEAT DIP switches from 00 to 01.

**Table 7:** Electrical heat: minimum fan CFM for three-phase heatkits

Heater kit models <sup>1,2</sup>	Nominal kW at 240 V	Airflow configuration heat dip switch setting*	Aux heat configuration heatkit selection dip switch setting	Air handler models (CFM <sup>3</sup> )										
				B18B	B24C	B36D	C36D	C42F	D42F	C48G	D48G	C60H	D60H	D60J
8HK06501025	9.6	00	1000	790	950	1150	1150	1150	1500	1150	1500	1150	1500	1700
8HK06501525	14.4	00	1001	—	950	1150	1150	1150	1575	1150	1575	1150	1575	1700
8HK16502025	19.2	00	1010	—	—	1150, 1150	1150, 1300	1150, 1400	1500, 1575	1150, 1300	1500, 1575	1150, 1300	1500, 1575	1700
8HK16502525	24	00	1011	—	—	—	—	—	—	—	1575, 1650	—	1575, 1650	1700, 1800

1. (0,1) - 0 = no service disconnect or 1 = with service disconnect

2. (1,2) - 1 = with service disconnect, no breaker jumper bar or 2 = with service disconnect and breaker jumper bar

3. For minimum fan CFM, if there are two values present, the first value is low-stage CFM (W1) and the second value is full-stage CFM (W1+W2). If higher kW/CFM is needed for low-stage, see **Table 8**.

\* To increase airflow by approximately 20%, adjust the HEAT DIP switches from 00 to 01.

**Table 8:** Aux heat configuration - stage 1 kW dip switch settings

W1 = W1	00, 01
W1 = W2	10
W1 = W1 + W2	11

**Table 9:** kW and MBH conversions - for total power input requirement

For a power distribution voltage that is different than the provided nominal voltage, multiply the kW and MBH data from the table by the conversion factor in the following table.

Distribution power (V)	Nominal voltage (V)	Conversion factor
208	240	0.75
220	240	0.84
230	240	0.92

**Table 10:** Application factors - rated CFM vs actual CFM

% of rated airflow (CFM)	80	90	100	110	120
Capacity factor	0.96	0.98	1.00	1.02	1.03

**Table 11:** Electric heat performance data: 208/230-1-60 and 208/230-3-60

Heater models <sup>1,2</sup>		Nominal kW at 240 V	Total heat <sup>3</sup>				kW staging			
			kW		MBH		W1 only		W1 and W2	
			208 V	230 V	208 V	230 V	208 V	230 V	208 V	230 V
Single phase	8HK(0,1)6500206	2.4	1.8	2.2	6.2	7.5	1.8	2.2	1.8	2.2
	8HK(0,1)6500506	4.8	3.6	4.4	12.3	15	3.6	4.4	3.6	4.4
	8HK(0,1)6500806	7.7	5.8	7.1	19.7	24.1	5.8	7.1	5.8	7.1
	8HK(0,1)6501006	9.6	7.2	8.8	24.6	30.1	7.2	8.8	7.2	8.8
	8HK(1,2)6501506	14.4	10.8	13.2	36.9	45.1	3.6	4.4	10.8	13.2
	8HK(1,2)6502006	19.2	14.4	17.6	49.2	60.2	7.2	8.8	14.4	17.6
	8HK(1,2)6502506	24	18	22	61.5	75.2	7.2	8.8	18	22
Three phase	8HK06501025	9.6	7.2	8.8	24.6	30.1	7.2	8.8	7.2	8.8
	8HK06501525	14.4	10.8	13.2	36.9	45.1	10.8	13.2	10.8	13.2
	8HK16502025	19.2	14.4	17.6	49.2	60.2	7.2	8.8	14.4	17.6
	8HK16502525	24	18	22	61.5	75.2	9	11	18	22

1. (0,1) - 0 = no service disconnect or 1 = with service disconnect

2. (1,2) - 1 = with service disconnect, no breaker jumper bar or 2 = with service disconnect and breaker jumper bar

3. For different power distributions, see **Table 9**.

Table 12: Electrical data for single-source power supply: 208/230-1-60

Air handler models	Heater models <sup>1,2</sup>	Heater amps (A) at 240 V	Field wiring			
			Minimum circuit ampacity (A)		MOP <sup>3</sup> (A)	
			208 V	230 V	208 V	230 V
B18B	8HK(0,1)6500206	10	14.1	15.2	15	20
	8HK(0,1)6500506	20	24.9	27.2	25	30
	8HK(0,1)6500806	32	38.1	41.8	40	45
	8HK(0,1)6501006	40	46.5	51.1	50	60
B24C	8HK(0,1)6500206	10	14.1	15.2	15	20
	8HK(0,1)6500506	20	24.9	27.2	25	30
	8HK(0,1)6500806	32	38.1	41.8	40	45
	8HK(0,1)6501006	40	46.5	51.1	50	60
	8HK(1,2)6501506	60	68.2	75.0	70	80
B36D	8HK(0,1)6500206	10	15.6	16.7	20	20
	8HK(0,1)6500506	20	26.4	28.7	30	30
	8HK(0,1)6500806	32	39.6	43.3	40	45
	8HK(0,1)6501006	40	48.0	52.6	50	60
	8HK(1,2)6501506	60	69.7	76.5	70	80
	8HK(1,2)6502006	80	91.3	100.4	100	110
C36D	8HK(0,1)6500206	10	15.6	16.7	20	20
	8HK(0,1)6500506	20	26.4	28.7	30	30
	8HK(0,1)6500806	32	39.6	43.3	40	45
	8HK(0,1)6501006	40	48.0	52.6	50	60
	8HK(1,2)6501506	60	69.7	76.5	70	80
	8HK(1,2)6502006	80	91.3	100.4	100	110
C42F	8HK(0,1)6500206	10	17.6	18.7	20	20
	8HK(0,1)6500506	20	28.4	30.7	30	35
	8HK(0,1)6500806	32	41.6	45.3	45	50
	8HK(0,1)6501006	40	50.0	54.6	60	60
	8HK(1,2)6501506	60	71.7	78.5	80	80
	8HK(1,2)6502006	80	93.3	102.4	100	110
D42F	8HK(0,1)6500206	10	17.6	18.7	20	20
	8HK(0,1)6500506	20	28.4	30.7	30	35
	8HK(0,1)6500806	32	41.6	45.3	45	50
	8HK(0,1)6501006	40	50.0	54.6	60	60
	8HK(1,2)6501506	60	71.7	78.5	80	80
	8HK(1,2)6502006	80	93.3	102.4	100	110
C48G	8HK(0,1)6500206	10	19.6	20.7	20	25
	8HK(0,1)6500506	20	30.4	32.7	35	35
	8HK(0,1)6500806	32	43.6	47.3	45	50
	8HK(0,1)6501006	40	52.0	56.6	60	60
	8HK(1,2)6501506	60	73.7	80.5	80	90
	8HK(1,2)6502006	80	95.3	104.4	100	110
D48G	8HK(0,1)6500206	10	17.6	18.7	20	20
	8HK(0,1)6500506	20	28.4	30.7	30	35
	8HK(0,1)6500806	32	41.6	45.3	45	50
	8HK(0,1)6501006	40	50.0	54.6	60	60
	8HK(1,2)6501506	60	71.7	78.5	80	80
	8HK(1,2)6502006	80	93.3	102.4	100	110
	8HK(1,2)6502506	100	114.9	126.3	125	150

Continued on next page

**Table 12:** Electrical data for single-source power supply: 208/230-1-60 (continued)

Air handler models	Heater models <sup>1,2</sup>	Heater amps (A) at 240 V	Field wiring			
			Minimum circuit ampacity (A)		MOP <sup>3</sup> (A)	
			208 V	230 V	208 V	230 V
C60H	8HK(0,1)6500206	10	19.6	20.7	20	25
	8HK(0,1)6500506	20	30.4	32.7	35	35
	8HK(0,1)6500806	32	43.6	47.3	45	50
	8HK(0,1)6501006	40	52.0	56.6	60	60
	8HK(1,2)6501506	60	73.7	80.5	80	90
	8HK(1,2)6502006	80	95.3	104.4	100	110
D60H	8HK(0,1)6500206	10	17.6	18.7	20	20
	8HK(0,1)6500506	20	28.4	30.7	30	35
	8HK(0,1)6500806	32	41.6	45.3	45	50
	8HK(0,1)6501006	40	50.0	54.6	60	60
	8HK(1,2)6501506	60	71.7	78.5	80	80
	8HK(1,2)6502006	80	93.3	102.4	100	110
	8HK(1,2)6502506	100	114.9	126.3	125	150
D60J	8HK(0,1)6500206	10	19.6	20.7	20	25
	8HK(0,1)6500506	20	30.4	32.7	35	35
	8HK(0,1)6500806	32	43.6	47.3	45	50
	8HK(0,1)6501006	40	52.0	56.6	60	60
	8HK(1,2)6501506	60	73.7	80.5	80	90
	8HK(1,2)6502006	80	95.3	104.4	100	110
	8HK(1,2)6502506	100	116.9	128.3	125	150

1. (0,1) - 0 = no service disconnect or 1 = with service disconnect

2. (1,2) - 1 = with service disconnect, no breaker jumper bar or 2 = with service disconnect and breaker jumper bar

3. MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. Refer to the latest edition of the National Electric Code or in Canada the Canadian electrical Code and local codes to determine correct wire sizing.

**Table 13:** Electrical data for multi-source power supply: 208/230-1-60

Air handlers models	Heater models <sup>1</sup>	Heater amps (A) at 240 V	Minimum circuit ampacity (A)						MOP <sup>2</sup> (A)					
			208 V			230 V			208 V			230 V		
			Circuit						Circuit					
			First <sup>3</sup>	Second	Third	First <sup>3</sup>	Second	Third	First <sup>3</sup>	Second	Third	First <sup>3</sup>	Second	Third
B24C	8HK16501506	60	24.7	43.5	—	26.9	48.1	-	25	45	-	30	50	-
B36D	8HK16501506	60	26.2	43.5	—	28.4	48.1	—	30	45	—	30	50	—
	8HK16502006	80	48.0	43.3	—	52.6	47.8	—	50	45	—	60	50	—
C36D	8HK16501506	60	26.2	43.5	—	28.4	48.1	—	30	45	—	30	50	—
	8HK16502006	80	48.0	43.3	—	52.6	47.8	—	50	45	—	60	50	—
C42F	8HK16501506	60	28.2	43.5	—	30.4	48.1	—	30	45	—	35	50	—
	8HK16502006	80	50.0	43.3	—	54.6	47.8	—	60	45	—	60	50	—
D42F	8HK16501506	60	28.2	43.5	—	30.4	48.1	—	30	45	—	35	50	—
	8HK16502006	80	50.0	43.3	—	54.6	47.8	—	60	45	—	60	50	—
C48G	8HK16501506	60	30.2	43.5	—	32.4	48.1	—	35	45	—	35	50	—
	8HK16502006	80	52.0	43.3	—	56.6	47.8	—	60	45	—	60	50	—
D48G	8HK16501506	60	28.2	43.5	—	30.4	48.1	—	30	45	—	35	50	—
	8HK16502006	80	50.0	43.3	—	54.6	47.8	—	50	45	—	60	50	—
	8HK16502506	100	50.0	43.3	21.6	54.6	47.8	23.9	60	45	25	60	50	25
C60H	8HK16501506	60	30.2	43.5	—	32.4	48.1	—	35	45	—	35	50	—
	8HK16502006	80	52.0	43.3	—	56.6	47.8	—	60	45	—	60	50	—
D60H	8HK16501506	60	28.2	43.5	—	30.4	48.1	—	30	45	—	35	50	—
	8HK16502006	80	50.0	43.3	—	54.6	47.8	—	60	45	—	60	50	—
	8HK16502506	100	50.0	43.3	21.6	54.6	47.8	23.9	60	45	25	60	50	25

Continued on next page



**Table 13:** Electrical data for multi-source power supply: 208/230-1-60 (continued)

Air handlers models	Heater models <sup>1</sup>	Heater amps (A) at 240 V	Minimum circuit ampacity (A)						MOP <sup>2</sup> (A)					
			208 V			230 V			208 V			230 V		
			Circuit						Circuit					
			First <sup>3</sup>	Second	Third	First <sup>3</sup>	Second	Third	First <sup>3</sup>	Second	Third	First <sup>3</sup>	Second	Third
D60J	8HK16501506	60	30.2	43.5	–	32.4	48.1	–	35	45	–	35	50	–
	8HK16502006	80	52.0	43.3	–	56.6	47.8	–	60	45	–	60	50	–
	8HK16502506	100	52.0	43.3	21.6	56.6	47.8	23.9	60	45	25	60	50	25

1. (0,1) - 0 = no service disconnect or 1 = with service disconnect

2. MOP = Maximum Overcurrent Protection device; must be HACR type circuit breaker or time delay fuse. The first circuit includes blower motor amps. Refer to the latest edition of the National Electric Code or in Canada the Canadian electrical Code and local codes to determine correct wire sizing.

**Table 14:** Electrical data for single source power supply: 208/230-3-60

Air handler models	Heater models <sup>1</sup>	Heater amps (A) at 240 V	Field wiring			
			Minimum circuit ampacity (A)		MOP <sup>2</sup> (A)	
			208 V	230 V	208 V	230 V
B18B	8HK06501025	23.1	28.2	30.9	30	35
B24C	8HK06501025	23.1	28.2	30.9	30	35
	8HK06501525	34.6	40.7	44.7	45	45
B36D	8HK06501025	23.1	29.7	32.4	30	35
	8HK06501525	34.6	42.2	46.2	45	50
	8HK16502025 <sup>1</sup>	46.2	54.7	60.0	60	60
C36D	8HK06501025	23.1	29.7	32.4	30	35
	8HK06501525	34.6	42.2	46.2	45	50
	8HK16502025 <sup>1</sup>	46.2	54.7	60.0	60	60
C42F	8HK06501025	23.1	31.7	34.4	35	35
	8HK06501525	34.6	44.2	48.2	45	50
	8HK16502025 <sup>1</sup>	46.2	56.7	62.0	60	70
D42F	8HK06501025	23.1	31.7	34.4	35	35
	8HK06501525	34.6	44.2	48.2	45	50
	8HK16502025 <sup>1</sup>	46.2	56.7	62.0	60	70
C48G	8HK06501025	23.1	33.7	36.4	35	40
	8HK06501525	34.6	46.2	50.2	50	60
	8HK16502025 <sup>1</sup>	46.2	58.7	64.0	60	70
D48G	8HK06501025	23.1	31.7	34.4	35	35
	8HK06501525	34.6	44.2	48.2	45	50
	8HK16502025 <sup>1</sup>	46.2	56.7	62.0	60	70
	8HK16502525 <sup>1</sup>	57.7	69.2	75.8	70	80
C60H	8HK06501025	23.1	33.7	36.4	35	40
	8HK06501525	34.6	46.2	50.2	50	60
	8HK16502025 <sup>1</sup>	46.2	58.7	64.0	60	70
D60H	8HK06501025	23.1	31.7	34.4	35	35
	8HK06501525	34.6	44.2	48.2	45	50
	8HK16502025 <sup>1</sup>	46.2	56.7	62.0	60	70
	8HK16502525 <sup>1</sup>	57.7	69.2	75.8	70	80
D60J	8HK06501025	23.1	33.7	36.4	35	40
	8HK06501525	34.6	46.2	50.2	50	60
	8HK16502025 <sup>1</sup>	46.2	58.7	64.0	60	70
	8HK16502525 <sup>1</sup>	57.7	71.2	77.8	80	80

1. 0 = no service disconnect or 1 = with service disconnect. The 20 kW and 25 kW heater models (8HK16502025 and 8HK16502525) come with service disconnects standard. Single source power MCA and MOP requirements are given here only for reference if used with field installed single point power modification.

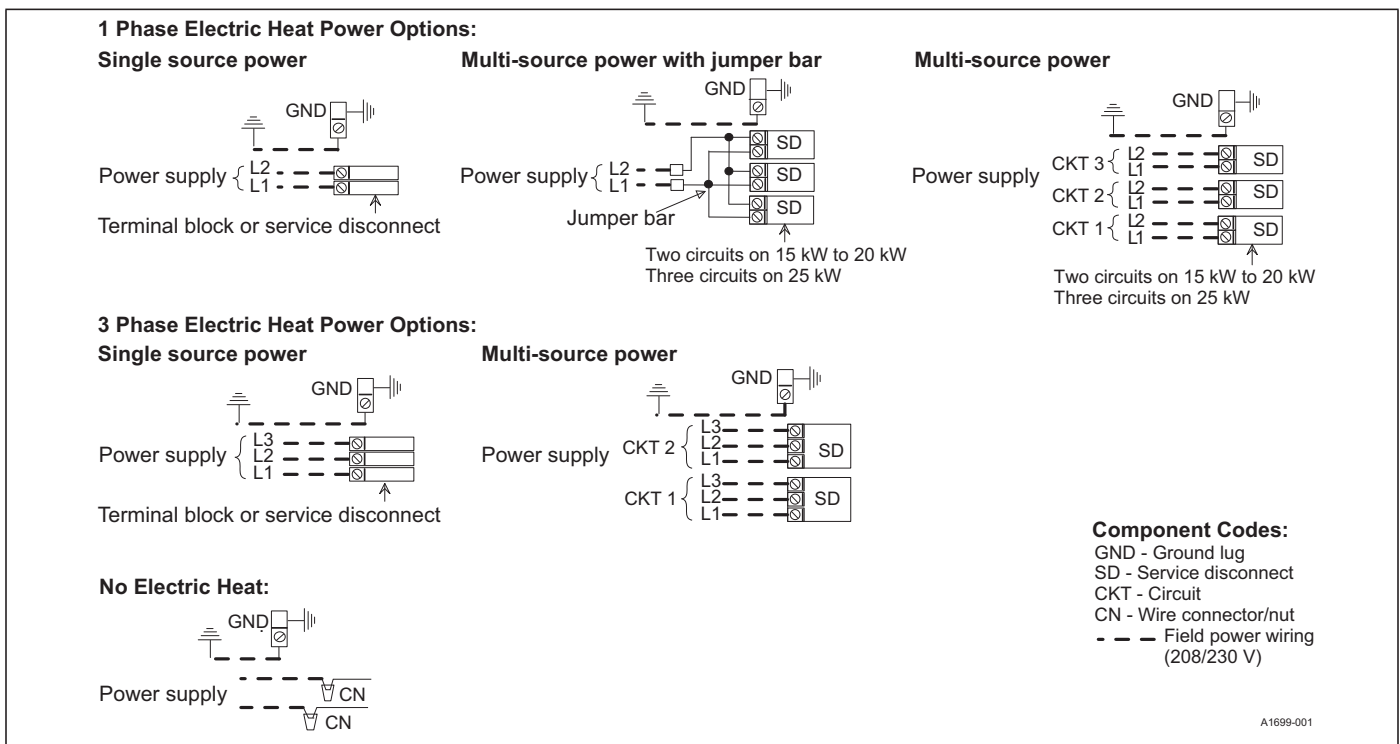
2. MOP = Maximum overcurrent protection device; must be HACR type circuit breaker or time delay fuse. The first circuit includes blower motor amps. Refer to the latest edition of the National Electric Code or in Canada the Canadian electrical Code and local codes to determine correct wire sizing.

**Table 15:** Electrical data for multi-source power supply: 208/230-3-60

Air handlers models	Heater models <sup>1</sup>	Heater amps (A) at 240V	Minimum circuit ampacity (A)				MOP <sup>2</sup> (A)			
			208V		230V		208V		230V	
			Circuit				Circuit			
			First <sup>2</sup>	Second	First <sup>2</sup>	Second	First <sup>2</sup>	Second	First <sup>2</sup>	Second
B36D	8HK16502025	46.2	29.7	25.0	32.4	27.6	30	25	35	30
C36D	8HK16502025	46.2	29.7	25.0	32.4	27.6	30	25	35	30
C42F	8HK16502025	46.2	31.7	25.0	34.4	27.6	35	25	35	30
D42F	8HK16502025	46.2	31.7	25.0	34.4	27.6	35	25	35	30
C48G	8HK16502025	46.2	33.7	25.0	36.4	27.6	35	25	40	30
D48G	8HK16502025	46.2	31.7	25.0	34.4	27.6	35	25	35	30
	8HK16502525	57.7	38.0	31.2	41.3	34.5	40	35	45	35
C60H	8HK16502025	46.2	33.7	25.0	36.4	27.6	35	25	40	30
D60H	8HK16502025	46.2	31.7	25.0	34.4	27.6	35	25	35	30
	8HK16502525	57.7	38.0	31.2	41.3	34.5	40	35	45	35
D60J	8HK16502025	46.2	33.7	25.0	36.4	27.6	35	25	40	30

1. The 20 kW and 25 kW heater models (8HK06502025 and 8HK06502525) come with circuit breakers standard.  
 2. MOP = Maximum overcurrent protection device; must be HACR type circuit breaker or time delay fuse. The first circuit includes blower motor amps. Refer to the latest edition of the National Electric Code or in Canada the Canadian electrical Code and local codes to determine correct wire sizing.

**Power wiring**



**Figure 2:** Power wiring - line connections

**Accessories**

Refer to Price Manual for specific model numbers where not shown.

**TXV kits** - Air handlers are shipped with Flex-coils without a factory installed metering device. For added flexibility, an R-22 or R-410A TXV or piston can be field installed to meet your refrigerant choice. All TXV kits are chatleff style and require no brazing to install. Some models are available with a factory installed TXV.

**Electric heaters** - 8HK models shown under electrical data include sequential operation and temperature dual limit switches for safe, efficient operation. Service disconnects are provided where shown.

Single source power accessories (single-phase)	
S1-02435670000	For heat kits with two service disconnects.
S1-02435671000	For heat kits with three service disconnects.
Single source power accessory (three-phase)	
S1-32436041000	Contains a terminal block and wiring to connect service disconnects together.

**Combustible floor base accessory** - If an electric heat accessory which is rated for greater than zero clearance to combustible surfaces is installed in these air handlers in the downflow operating positions on a combustible floor, one of the following combustible floor base accessory models is required: S1-1FB1917, S1-1FB1921, or S1-1FB1924.

**Thermostat** - Compatible thermostat controls are available through accessory sourcing. For optimum performance, these outdoor units are fully compatible with our Coleman touch screen thermostat with proprietary (patent-pending) hexagon interface. For more information, see the thermostat section of the Product Equipment Catalog.

**Breaker moisture seal accessory** - A clear circuit breaker moisture barrier seals the breakers from humidity and dust. The flexibility of the clear cover allows circuit breakers to be turned ON or OFF without removing the cover. The cover firmly attaches to the access panel around the circuit breakers with the use of double backed adhesive tape. To ensure that moisture or dust does not contaminate circuit breakers, an S1-02435672000, Circuit Breaker, Cover Seal may be ordered.

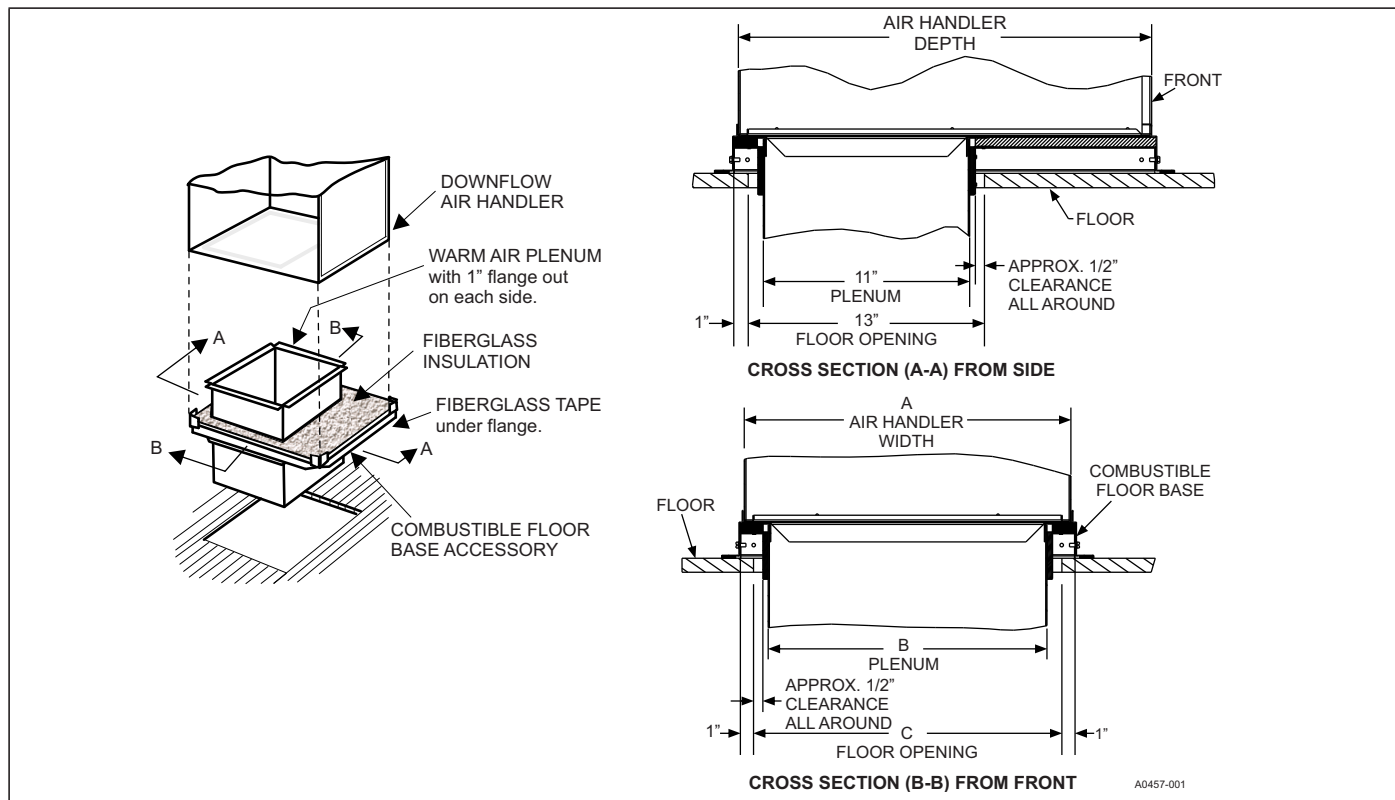


Figure 3: Combustible floor base accessory

Table 16: Combustible floor base accessory dimensions

Floor base models	Used with	Dimensions (in.)		
		A	B	C
1FB1917	B18B, B24C, B36D	17.5	14.0	16.0
1FB1921	C36D, C42F, C48G, C60H	21.0	17.5	19.5
1FB1924	D42F, D48G, D60H, D60J	24.5	21.0	23.0

**Limitations**

These units must be wired and installed in accordance with all national and local safety codes.

**Voltage limits are as follows:**

Air Handler Voltage	Voltage code	Normal Operating Voltage Range <sup>1</sup>
208/230-1-60	06	187-253

1. Rated in accordance with ARI Standard 110, utilization range A.

Airflow must be within the minimum and maximum limits approved for electric heat, evaporator coils and outdoor units.

Typical applications

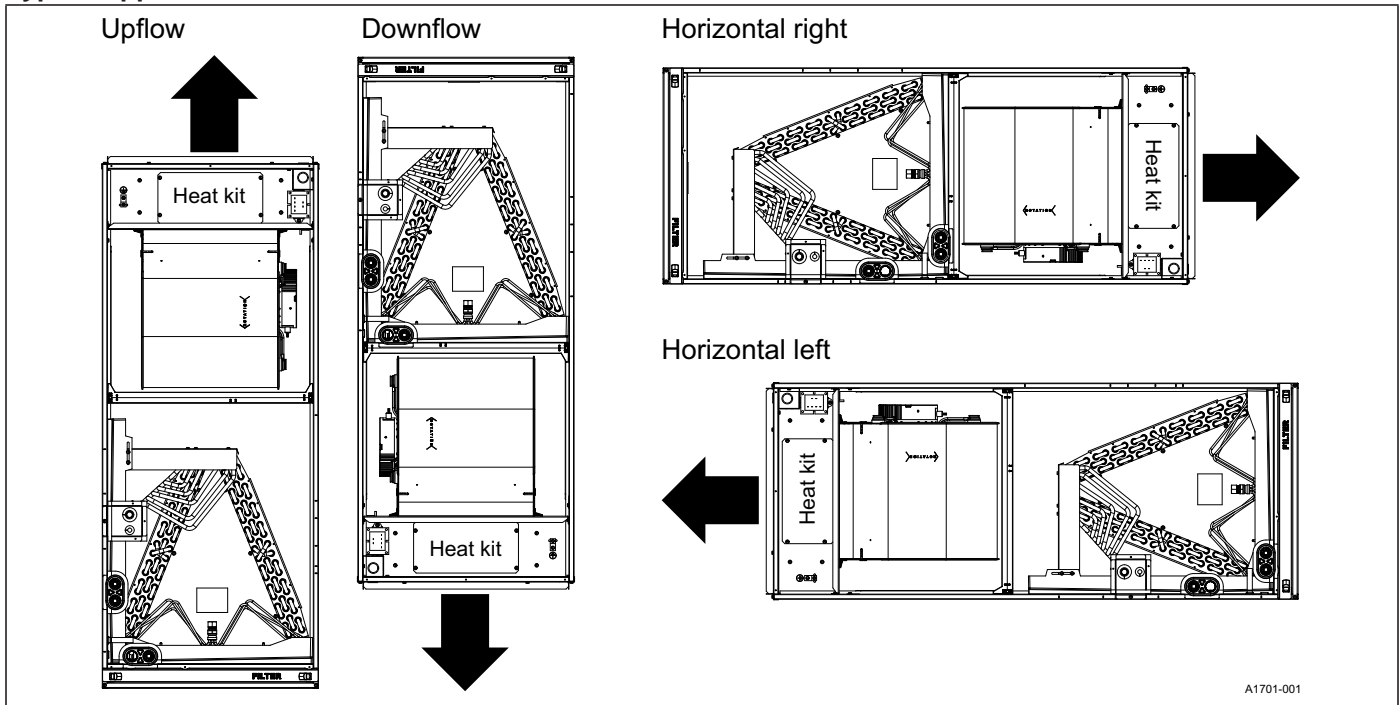


Figure 4: Typical applications

Control wiring

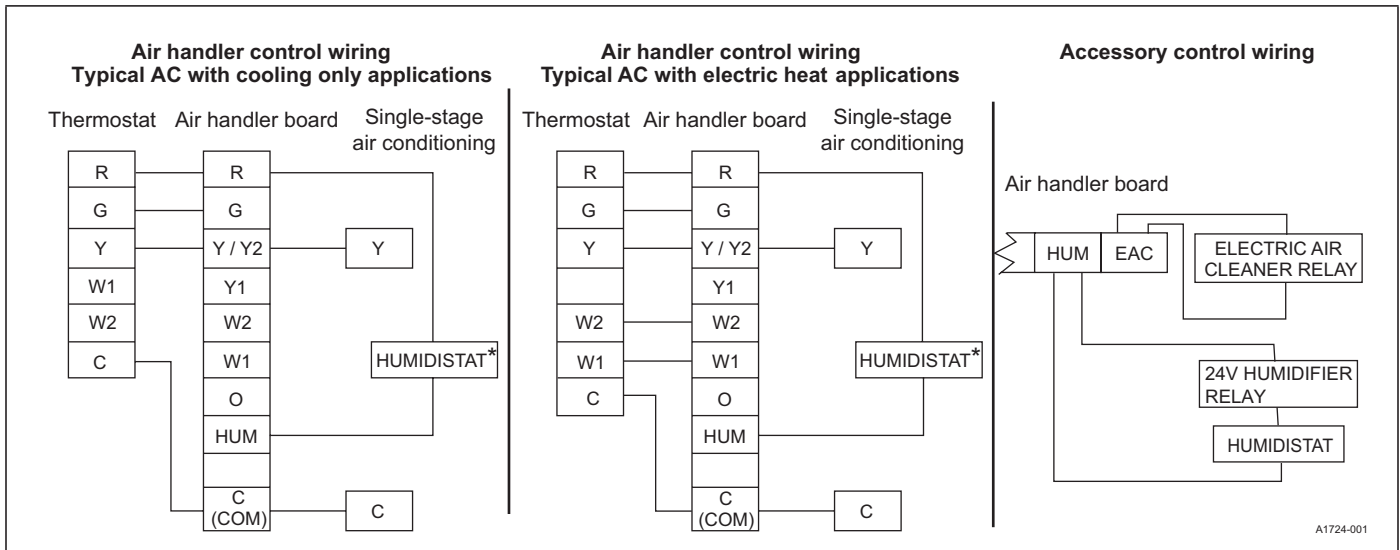


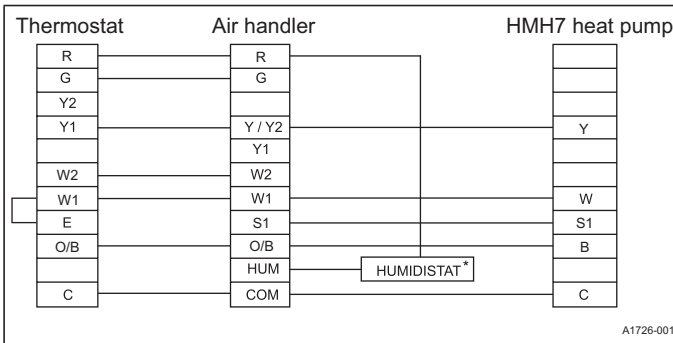
Figure 5: Cooling models with and without electric heat wiring

Notes:

- The Y/Y2 thermostat wire must be connected for full CFM and applications requiring 60 s blower off delay for SEER enhancement.
- If a humidistat is connected to the HUM input, change the HUMIDISTAT dip switch to the 1 (ON) position.
- The control is factory set for HP applications. For AC applications, change the AC/HP dip switch to the 1 (ON) position.
- **Air handler control wiring only:** Optional dehumidification humidistat switch contacts open on humidity rise.

# NOTICE

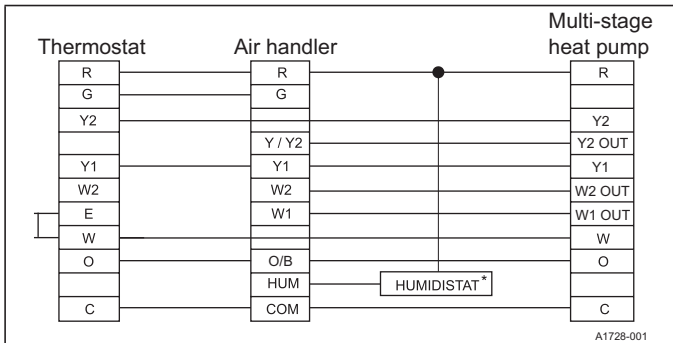
**For Figure 6:**  
 Room thermostat reversing valve operation must be set to **B** - energize during heating operation.  
 S1 mode must be enabled for correct operation. Refer to the required control set up section in the unit *installation manual*.



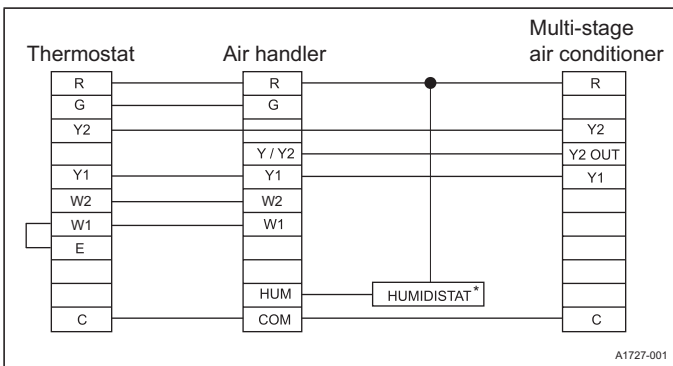
**Figure 6:** Control wiring - premium ECM blower and HMH7 heat pump - conventional wiring

# NOTICE

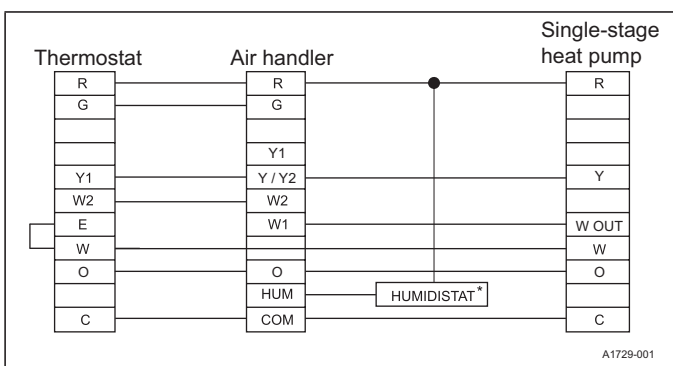
**For Figure 8:**  
 Do not bond any of the outdoor unit **W** wires together.  
**W2 OUT** is only required for heat kits with multiple stages of electric heat. Refer to the wiring diagram for the heat kit used to determine stages of heat.



**Figure 8:** Control wiring - premium ECM blower and multi-stage heat pump - conventional wiring



**Figure 7:** Control wiring - premium ECM blower and multi-stage air conditioner - conventional wiring



**Figure 9:** Control wiring - premium ECM blower and single-stage heat pump - conventional wiring

## Airflow data

**Table 17:** Airflow data (CFM per Watts)

DIP Switch	Unit	B18B		B24C		B36D		C36D		C42F		D42F	
		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
000	CFM	575	400	700	475	800	550	825	600	1100	700	1125	675
	W	101	75	134	91	162	102	164	113	224	130	216	124
001	CFM	625	450	725	525	900	600	900	650	1200	750	1225	875
	W	111	82	143	99	186	112	183	122	254	139	245	157
010	CFM	675	475	800	575	975	650	1000	700	1300	800	1325	925
	W	121	85	154	108	215	123	206	132	291	154	276	167
011	CFM	725	525	850	625	1075	700	1050	750	1400	850	1425	1000
	W	133	93	166	115	248	135	229	143	335	164	311	184
100	CFM	775	550	925	650	1150	775	1150	825	1500	925	1550	1075
	W	145	97	198	123	289	154	253	159	390	180	354	203
101	CFM	850	575	975	700	1250	825	1225	850	1625	975	1675	1150
	W	159	101	216	134	334	169	284	171	451	192	402	224
110	CFM	900	625	1075	725	1325	900	1300	900	1725	1050	1775	1225
	W	174	111	248	143	386	186	315	183	521	210	462	245
111	CFM	950	650	1100	775	1400	950	1350	950	1825	1100	1875	1275
	W	194	115	274	148	455	204	350	198	603	224	534	262

DIP Switch	Unit	C48G		D48G		C60H		D60H		D60J	
		High	Low	High	Low	High	Low	High	Low	High	Low
000	CFM	1150	725	1125	700	1400	975	1400	975	1375	925
	W	253	141	215	121	330	187	282	169	288	167
001	CFM	1250	775	1225	875	1525	1075	1550	1075	1475	1050
	W	288	155	246	154	399	213	334	189	341	190
010	CFM	1350	850	1325	925	1650	1150	1700	1150	1750	1125
	W	325	172	282	166	473	235	402	206	403	208
011	CFM	1450	900	1425	1000	1800	1250	1850	1250	1875	1225
	W	370	182	320	183	554	267	480	233	475	237
100	CFM	1575	975	1550	1075	1925	1350	2000	1350	2000	1350
	W	424	203	367	201	653	307	581	264	559	271
101	CFM	1675	1025	1675	1150	2050	1425	2125	1425	2000	1400
	W	481	216	409	223	761	343	678	293	559	300
110	CFM	1775	1100	1800	1225	2050	1525	2125	1550	2000	1475
	W	549	239	467	246	761	399	678	334	559	341
111	CFM	1875	1150	1900	1275	2050	1600	2125	1650	2000	1575
	W	619	253	558	264	761	441	678	373	559	377

**Notes:**

- Air handler units have been tested to UL 60335-2-40 / CSA 22.2 No. 236 standards up to 0.6 in. W.C. external static pressure.
- Dry coil conditions only, tested without filters.
- For optimal performance, external static pressures of 0.2 in. W.C to 0.5 in. W.C are recommended. Heating applications tested at 0.5 in. W.C. external static pressure. Above 0.5 in. W.C., CFM is reduced by 2% per 0.1 in. increase in static.
- Low speed cooling used only with two stage outdoor units. Speed is preset to 65% of high speed.
- Dehumidification speed is 85% of jumper selected cool tap.
- Any compressor operation uses HI COOL and LO COOL DIP switches. Indoor heating operates off the heat kit selection and the HEAT DIP switches.
- At some settings, low cool and/or low heat airflow may be lower than what is required to operate an airflow switch on certain models of electronic air cleaners. Consult the instructions for the electronic air cleaner for further details.
- Airflow (CFM) indicator light (LED2) flashes once for every 100 CFM (for example, 12 flashes is 1200 CFM) - blinks are approximate  $\pm 10\%$  of actual CFM.