



## Technical Guide

### Variable Speed ECM Modular Multi-Position Air Handlers For use with split-system cooling and heat pumps Models: JMVT Series



### Description

This unique modular system provides the flexibility to handle any application. These versatile JMVT blowers can be used for upflow, downflow, or horizontal left, or right applications. They can be combined with cased coils to function as a cooling only unit or with a heat pump including electric heat for 208-230-1 and 208-230-3 phase applications. The JMVT blower and 8HK electric heater kits can be used as stand alone electric furnaces.

### Features

**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

**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



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.

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## Nomenclature

<b>Brand</b>	<b>J</b>	<b>J</b> = JCI air handler	
<b>Type</b>	<b>M</b>	<b>M</b> = modular blower	
<b>Motor type</b>	<b>V</b>	<b>V</b> = multi variable speed ECM	
		<b>E</b> = multi standard ECM	
		<b>P</b> = multi 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 (in.)</b>	<b>B</b>	<b>A</b> = 14.5	<b>C</b> = 21
		<b>B</b> = 17.5	<b>D</b> = 24.5
<b>Options</b>	<b>-</b>	<b>C</b> = communications ready	
		<b>-</b> (no designator) = standard (no options)	
<b>Nominal airflow</b>	<b>12</b>	<b>08</b> = 800 CFM	
		<b>12</b> = 1,200 CFM	
		<b>14</b> = 1,400 CFM	
		<b>16</b> = 1,600 CFM	
		<b>20</b> = 2,000 CFM	
<b>Voltage (voltage-phase-hertz)</b>	<b>2</b>	<b>2</b> = 208/230-1-60	
<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

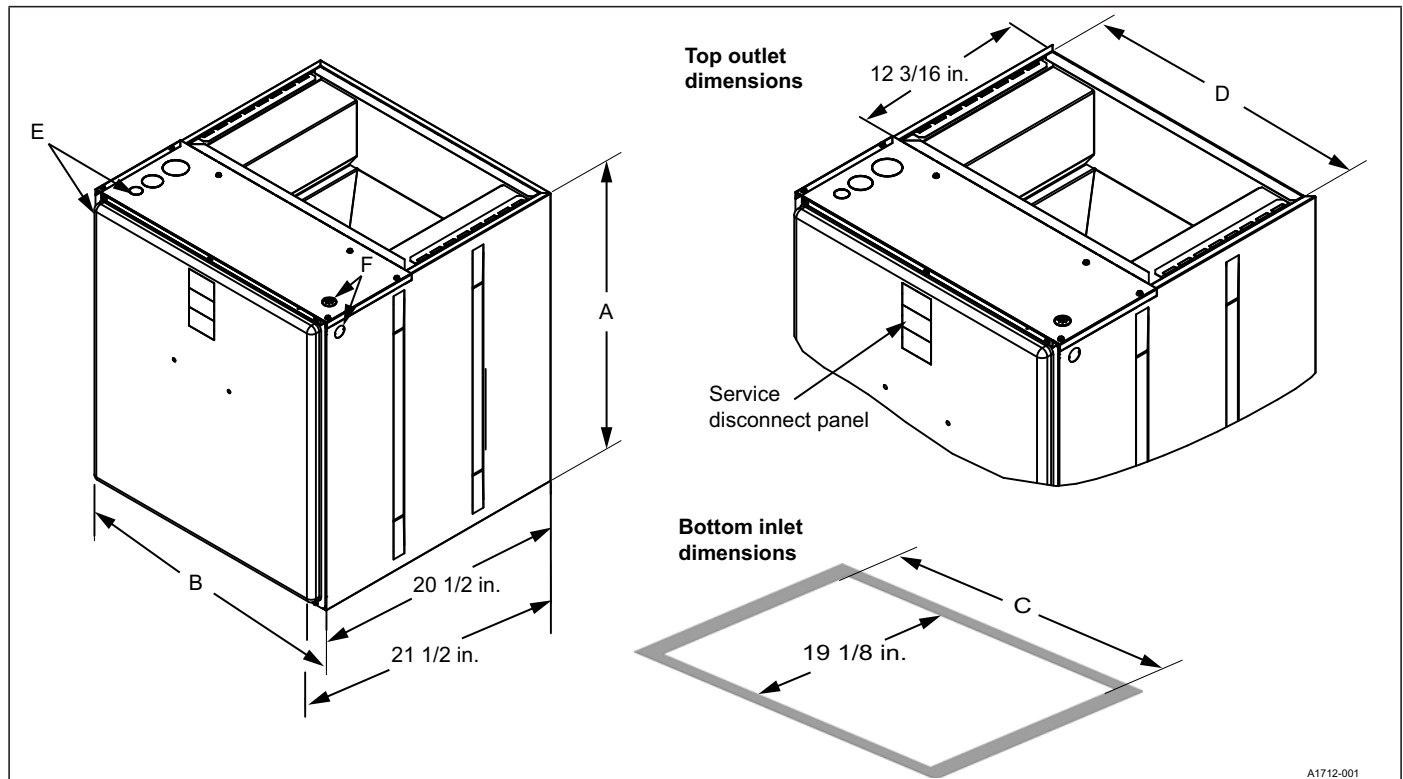


Figure 1: Duct connections

Table 1: Dimensions

Models	Dimensions				Wiring knockouts <sup>1</sup>	
	A	B	C	D	E	F
	Height (in.)	Width (in.)	Opening widths (in.)		Power (in.)	Control (in.)
JMVT12BC2N1	22 3/4	17 1/2	10 1/2	13 1/2	7/8 (1/2) 1 3/8 (1) 1 23/32 (1 1/4)	7/8 (1/2)
JMVT16CC2N1	22 3/4	21	13 1/4	16 1/2		
JMVT17CC2N1	22 3/4	21	13 1/4	16 1/2		
JMVT20DC2N1	22 3/4	24 1/2	14 1/2	20		

1. Actual size (conduit size)

## Technical data

Table 2: Cooling capacity<sup>1</sup> XAF

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
XAFA18A	600	85/72	43.2	38.4	32.9	26.9
		80/67	34.8	29.9	24.4	18.9
		75/62	27.2	22.4	17.3	11.7
		70/57	20.6	15.8	10.7	8.1
XAFB18A	600	85/72	43.2	38.4	32.9	26.9
		80/67	34.8	29.9	24.4	18.9
		75/62	27.2	22.4	17.3	11.7
		70/57	20.6	15.8	10.7	8.1

Table 2: Cooling capacity<sup>1</sup> XAF (continued)

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
XAFA24B	800	85/72	54.8	49.2	43	35.8
		80/67	44.7	39	32.3	25.2
		75/62	35.4	29.5	23	15.5
		70/57	27	20.9	14.2	10.9
XAFB24B	800	85/72	54.8	49.2	43	35.8
		80/67	44.7	39	32.3	25.2
		75/62	35.4	29.5	23	15.5
		70/57	27	20.9	14.2	10.9
XAFB30C	1000	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	13.9
XAFC30C	1000	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	13.9
XAFA30D	1000	85/72	72	64.5	55.8	46.1
		80/67	58.6	50.8	42	32.4
		75/62	45.9	38.5	29.8	19.8
		70/57	35	27.6	19.1	14.5
XAFB36D	1200	85/72	80.2	72.1	62.8	52
		80/67	65.5	57.2	47.4	36.5
		75/62	52	43.5	33.4	22.2
		70/57	39.9	30.9	22.1	16.8
XAFC36D	1200	85/72	80.2	72.1	62.8	52
		80/67	65.5	57.2	47.4	36.5
		75/62	52	43.5	33.4	22.2
		70/57	39.9	30.9	22.1	16.8
XAFB36E	1200	85/72	73.6	67.5	60.5	52
		80/67	61.6	55	47.2	38.2
		75/62	50.3	43.1	34.9	23.8
		70/57	39.5	31.7	23.4	18.2
XAFC42E	1400	85/72	78.3	72.1	64.7	56
		80/67	65.7	59	50.9	41.4
		75/62	53.8	46.4	37.8	26.4
		70/57	42.5	34	26	20.3
XAFC42E	1400	85/72	78.3	72.1	64.7	56
		80/67	65.7	59	50.9	41.4
		75/62	53.8	46.4	37.8	26.4
		70/57	42.5	34	26	20.3
XAFC48F	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

**Table 2:** Cooling capacity<sup>1</sup> XAF (continued)

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
XAFD48F	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
XAFC60G	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
		70/57	50.5	39.3	27.5	20.7
XAFD60G	1800	85/72	109.1	98.2	85.3	71
		80/67	89	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
XAFC60H	1800	85/72	107	97.1	85.4	72.2
		80/67	88.2	77.8	65	51.9
		75/62	70.9	59.4	47.1	31.8
		70/57	54.5	43.1	30.6	23.4
XAFD60H	1800	85/72	107	97.1	85.4	72.2
		80/67	88.2	77.8	65	51.9
		75/62	70.9	59.4	47.1	31.8
		70/57	54.5	43.1	30.6	23.4
XAFD60J	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 3:** Cooling capacity<sup>1</sup> XAH

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
XAHA18A	600	85/72	43.2	38.4	32.9	26.9
		80/67	34.8	29.9	24.4	18.9
		75/62	27.2	2.4	17.3	11.7
		70/57	20.6	15.8	10.7	8.1
XAHA24B	800	85/72	54.8	49.2	43	35.8
		80/67	44.7	39	32.3	25.2
		75/62	35.4	29.5	23	15.5
		70/57	27	20.9	14.2	10.9
XAHB24B	800	85/72	54.8	49.2	43	35.8
		80/67	44.7	39	32.3	25.2
		75/62	35.4	29.5	23	15.5
		70/57	27	20.9	14.2	10.9
XAHB30C	1000	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	13.9

**Table 3:** Cooling capacity<sup>1</sup> XAH (continued)

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
XAHC30C	1000	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	13.9
XAHB36D	1200	85/72	80.2	72.1	62.8	52
		80/67	65.5	57.2	47.4	36.5
		75/62	52	43.5	33.4	22.2
		70/57	39.9	30.9	22.1	16.8
XAHC36D	1200	85/72	80.2	72.1	62.8	52
		80/67	65.5	57.2	47.4	36.5
		75/62	52	43.5	33.4	22.2
		70/57	39.9	30.9	22.1	16.8
XAHC42E	1400	85/72	78.3	72.1	64.7	56
		80/67	65.7	59	50.9	41.4
		75/62	53.8	46.4	37.8	26.4
		70/57	42.5	34	26	20.3
XAHD42E	1400	85/72	78.3	72.1	64.7	56
		80/67	65.7	59	50.9	41.4
		75/62	53.8	46.4	37.8	26.4
		70/57	42.5	34	26	20.3
XAHC48F	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
XAHD48F	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
XAHC60G	1800	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
		70/57	50.5	39.3	27.5	20.7
XAHD60G	1800	85/72	109.1	98.2	85.3	71
		80/67	89	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
XAHC60H	1800	85/72	107	97.1	85.4	72.2
		80/67	88.2	77.8	65	51.9
		75/62	70.9	59.4	47.1	31.8
		70/57	54.5	43.1	30.6	23.4
XAHD60H	1800	85/72	107	97.1	85.4	72.2
		80/67	88.2	77.8	65	51.9
		75/62	70.9	59.4	47.1	31.8
		70/57	54.5	43.1	30.6	23.4
XAHD60J	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		JMVT12B	JMVT16C	JMVT17C	JMVT20D
Blower - diameter x width (in.)		11 x 8	11 x 10	11 x 10	11 x 11
Motor	HP	1/2 HP	3/4 HP	1 HP	1 HP
	Nominal RPM	1050	1050	1050	1050
Voltage		208/230	208/230	208/230	208/230
Full load amps at 230 V		3.8	5.4	7.0	7.0
Filter <sup>1</sup>	Type	Disposable or cleanable			
	Size (in.)	16 x 20 x 1	20 x 20 x 1	20 x 20 x 1	23 x 20 x 1
	Bottom rack kit	1BR01117	1BR01121	1BR01121	1BR01124
Shipping/operating weight (lb)		57/56	63/62	66/65	70/69

1. Field-supplied

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

Models	Motor FLA <sup>1</sup>	Minimum circuit ampacity (A)	MOP <sup>2</sup>
JMVT12B	3.8	4.8	15
JMVT16C	5.4	6.8	15
JMVT17C/JMVT20D	7.0	8.8	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 dip switch settings for single-phase heat kits

Heater kit models <sup>1,2</sup>	Nominal kW at 240 V	Air handler models							
		12B		16C		17C		20D	
Indoor coil product match		XAF	XAH	XAF	XAH	XAF	XAH	XAF	XAH
8HK(0,1)6500206	2.4	00-0001	00-0001	00-0001	00-0001	00-0001	00-0001	00-0001	00-0001
8HK(0,1)6500506	4.8	00-0010	01-0010	00-0010	00-0010	00-0010	00-0010	00-0010	00-0010
8HK(0,1)6500806	7.7	00-0011	01-0011	00-0011	00-0011	00-0011	00-0011	00-0011	00-0011
8HK(0,1)6501006	9.6	00-0100	00-0101	00-0100	00-0100	00-0100	00-0100	00-0100	00-0100
8HK(1,2)6501506	14.4	00-0101	01-0101	00-0101	00-0101	01-0101	01-0101	00-0101	01-0101
8HK(1,2)6502006	19.2	00-0110	00-0110	01-0110	01-0110**	00-0110	00-0110	00-0110	00-0110
8HK(1,2)6502506	24	—	—	—	—	—	—	00-0111	00-0111

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

The values in the table are represented as two digits followed by a set of four digits.

The first two digits represent the airflow configuration - heat dip switch settings (00 = nominal, 01 = +20% CFM increase).

The last four digits represent the auxiliary heat configuration - heat kit selection dip switch settings.

\*To increase any airflow by approximately 20%, adjust the heat dip switches from 00 to 01, if not already assigned as required for minimum CFM to satisfy the kW specified in the table.

\*\*Heat kit kW not approved for horizontal right with heat pump application.

**Table 7:** Electrical heat: minimum fan CFM dip switch settings for three-phase heat kits

Heater kit models <sup>1,2</sup>	Nominal kW at 240 V	Air handler models							
		12B		16C		17C		20D	
Indoor coil product match		XAF	XAH	XAF	XAH	XAF	XAH	XAF	XAH
8HK06501025	9.6	00-1000	00-1000	00-1000	00-1000	00-1000	00-1000	00-1000	00-1000
8HK06501525	14.4	00-1001	01-1001	00-1001	01-1001	01-1001	01-1001	00-1001	00-1001
8HK16502025	19.2	00-1010	00-1010	01-1010	01-1010	00-1010	00-1010	00-1010	00-1010
8HK16502525	24	—	—	—	—	—	—	00-1011	00-1011

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

The values in the table are represented as two digits followed by a set of four digits.

The first two digits represent the airflow configuration - heat dip switch settings (00 = nominal, 01 = +20% CFM increase).

The last four digits represent the auxiliary heat configuration - heat kit selection dip switch settings.

\*To increase any airflow by approximately 20%, adjust the heat dip switches from 00 to 01, if not already assigned as required for minimum CFM to satisfy the kW specified in the table.

**Table 8:** Auxiliary 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

Modular blower 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
JMVT12B	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
JMVT16C	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	50	60
	8HK(1,2)6501506	60	71.7	78.5	80	80
	8HK(1,2)6502006	80	93.3	102.4	100	110



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

Modular blower 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
JMVT17C	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
JMVT20D	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

Modular blower models	Heater models <sup>1,2</sup>	Heater amps (A) at 240 V	Minimum circuit ampacity (A)						MOP <sup>3</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
JMVT12B	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	—
JMVT16C	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	—
JMVT17C	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	—
JMVT20D	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. (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. 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

Modular blower 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
JMVT12B	8HK06501025	23.1	29.7	32.4	30	35
	8HK06501525	34.6	42.2	46.2	45	50
	8HK06502025 <sup>3</sup>	46.2	54.7	60.0	60	60
JMVT16C	8HK06501025	23.1	31.7	34.4	35	35
	8HK06501525	34.6	44.2	48.2	45	50
	8HK0502025 <sup>3</sup>	46.2	56.7	62.0	60	70
JMVT17C	8HK06501025	23.1	33.7	36.4	35	40
	8HK06501525	34.6	46.2	50.2	50	60
	8HK06502025 <sup>3</sup>	46.2	58.7	64.0	60	70

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

Modular blower 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
JMVT20D	8HK06501025	23.1	33.7	36.4	35	40
	8HK06501525	34.6	46.2	50.2	50	60
	8HK06502025 <sup>3</sup>	46.2	58.7	64.0	60	70
	8HK06502525 <sup>3</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
12B	8HK16502025	46.2	29.7	25.0	32.4	27.6	30	25	35	30
16C	8HK16502025	46.2	31.7	25.0	34.4	27.6	35	25	35	30
17C	8HK16502025	46.2	33.7	25.0	36.4	27.6	35	25	40	30
20D	8HK16502025	46.2	33.7	25.0	36.4	27.6	35	25	40	30
	8HK16502525	57.7	40.0	31.2	43.3	34.5	40	35	45	35

1. The 20 kW and 25 kW heater models (8HK16502025 and 8HK16502525) 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

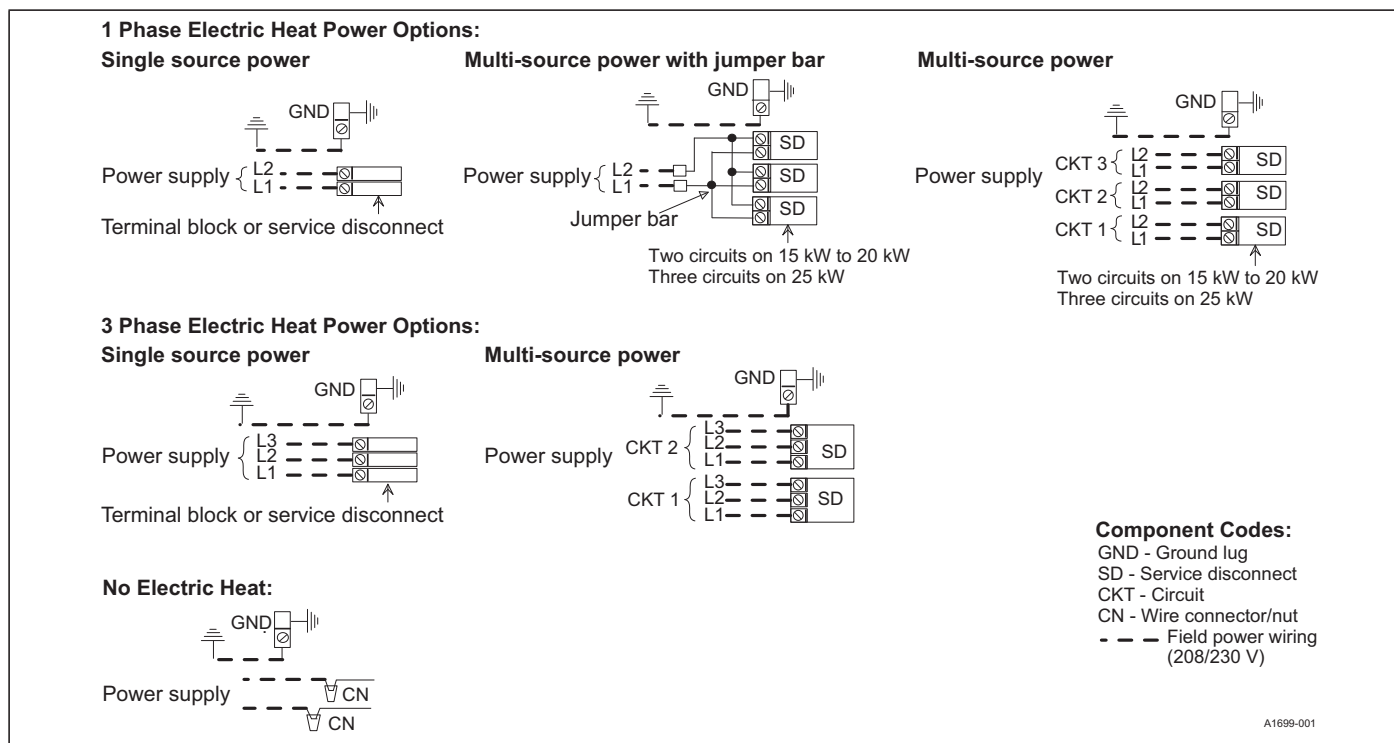


Figure 2: Power wiring - line connections

### Accessories

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

**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 YORK 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.

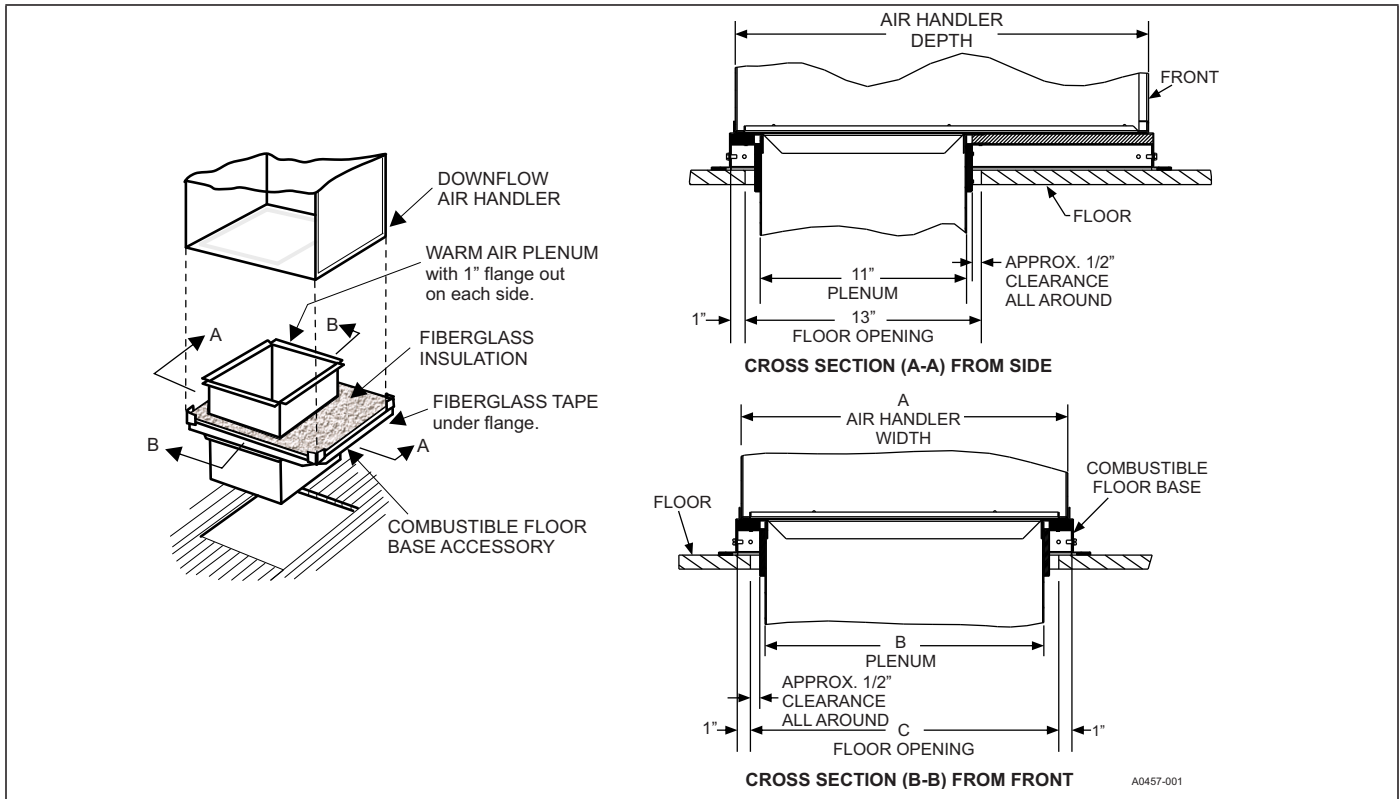


Figure 3: Combustible floor base accessory

Table 16: Combustible floor base accessory dimensions

Floor base models	Used with	Dimensions (in.)		
		A	B	C
1FB1917	JMVT12B	17.5	14.0	16.0
1FB1921	JMVT16C, JMVT17C	21.0	17.5	19.5
1FB1924	JMVT20D	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

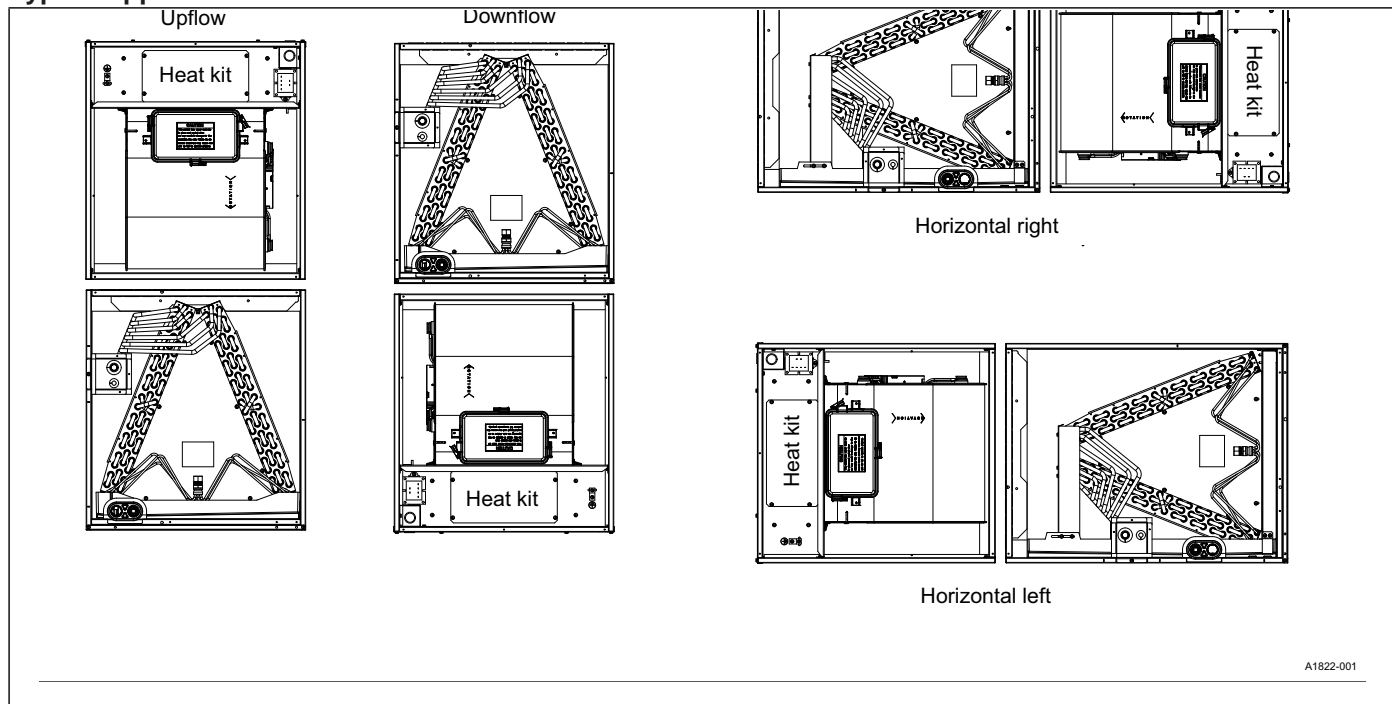


Figure 4: Typical applications

Control wiring

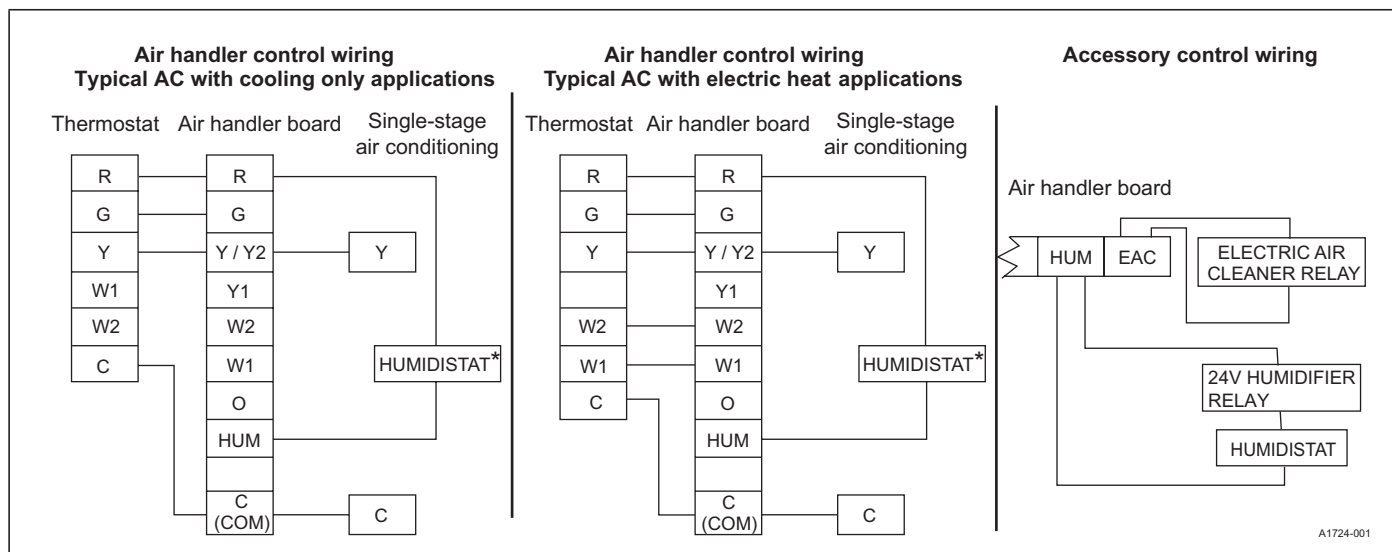


Figure 5: Cooling models with and without electric heat wiring

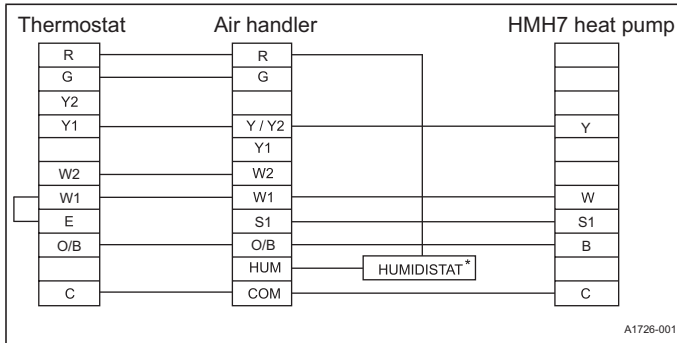
Notes:

- 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.

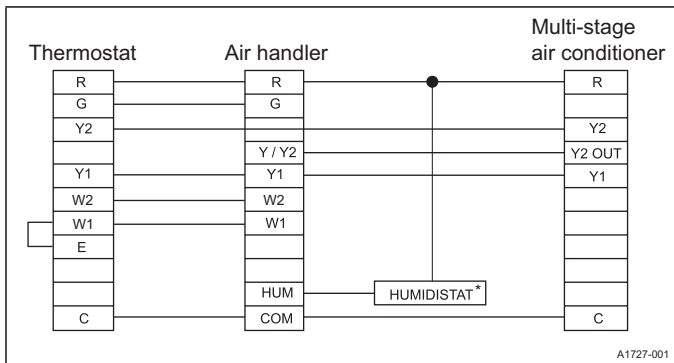
# NOTICE

## 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



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

## Airflow data

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

Dip switch setting	JMVT12B		JMVT16C		JMVT17C		JMVT20D	
	High cool	Low cool	High cool	Low cool	High cool	Low cool	High cool	Low cool
000	800	550	1100	700	1150	725	1500	925
001	900	600	1200	750	1250	775	1475	1050
010	975	650	1300	800	1350	850	1750	1125
011	1075	700	1400	850	1450	900	1875	1225
100	1150	775	1500	925	1575	975	2000	1350
101	1250	825	1625	975	1675	1025	2000	1400
110	1325	900	1725	1050	1775	1100	2000	1475
111	1400	950	1825	1100	1875	1150	2000	1575

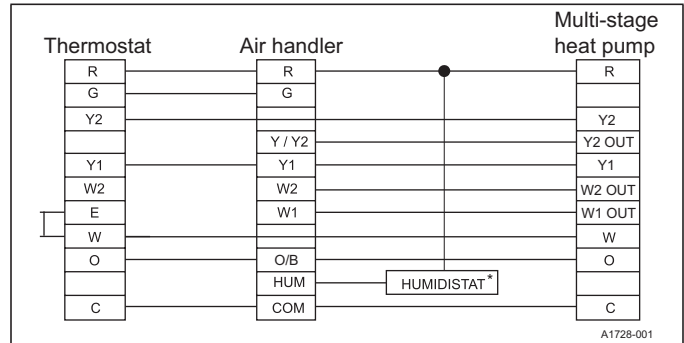
## Notes:

- 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 high cool and low 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.

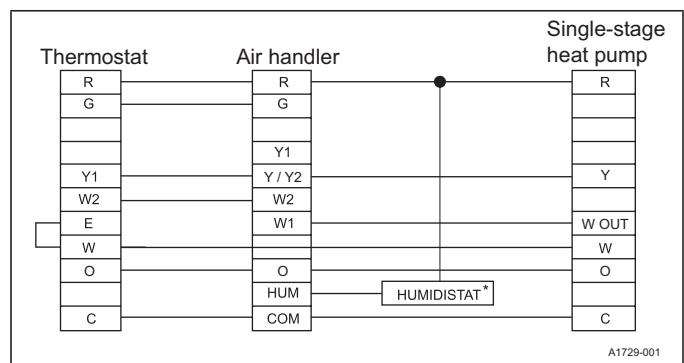
# NOTICE

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