JHVT
JMVT
JHVV

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1

Nomenclature

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

New Platform Air Handlers utilize 8HK Heat Kits.

Heater kit models[1,2]	Nominal kW at 240 V
8HK(0,1)6500206	2.4
8HK(0,1)6500506	4.8
8HK(0,1)6500806	7.7
8HK(0,1)6501006 8HK06501025	9.6
8HK(1,2)6501506 8HK06501525	14.4
8HK(1,2)6502006 8HK16502025	19.2
8HK(1,2)6502506 8HK16502525	24

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.

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Fuse · Status LED · 7-segment display · Blower motor connection · Airflow LED · Heatkit outputs · EAC output · HUM output · S1 input · Communication connections · EEPLUG port · Leaving air temperature sensor input · Float switch input · Airflow configuration · Model configuration · Aux heat configuration · Conventional thermostat inputs · Pushbutton · Settings configuration

A1707-001
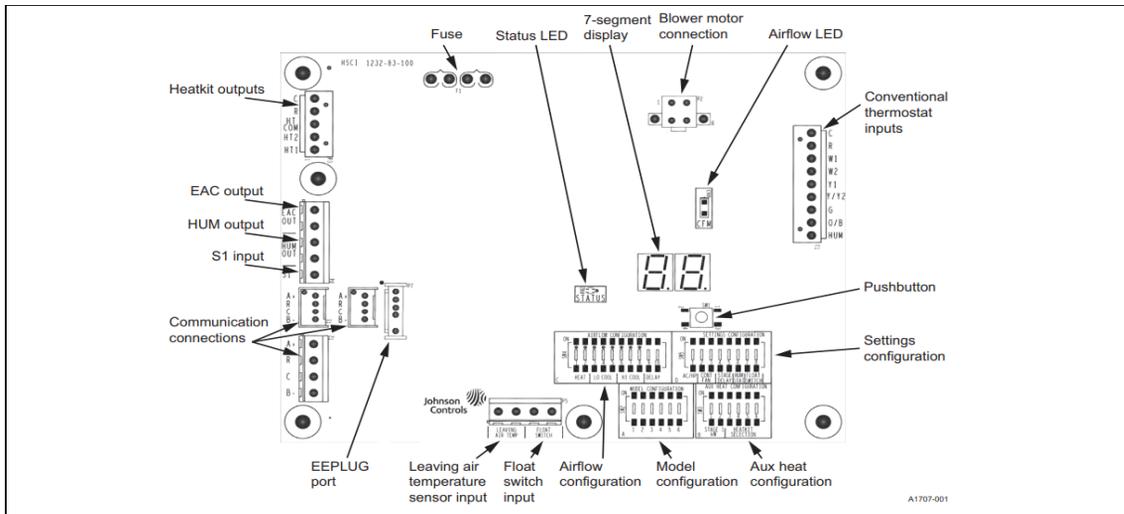
3

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- There are 2 sets of switches that must be set prior to any thermostat wires are connected.
- Apply power to Air Handler and the model configuration will be the 1st. To set.
- SW2 is a bank of 6 switches.
- Per the 2023 installation manual or ST-004-2023 find the model of air handler.
- Switches will be set on and off in a particular order enter the model configuration.
- Zero is off, One is on.
- From the diagram the switch set point(on or off) will be the white part.

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- Each model will have a series of on and off settings.
- The white part of the switches are the actual position
- Once the switches are set push and hold the button for 6-10 seconds
- Use a stopwatch for this.
- Settings will not be saved unless the switch is pressed in this time frame.

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3
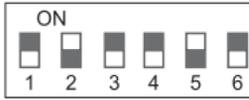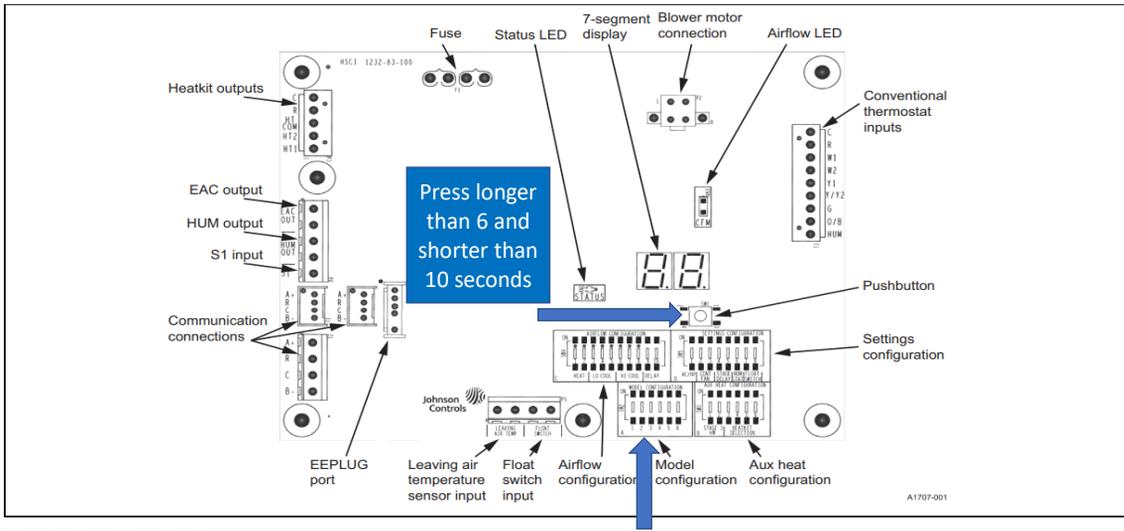
JHVT JMVT JVVT

- Once the model is saved a verification code will flash.
- If the correct verification code doesn't flash confirm switch settings and press the button again.
- Remember 6-10 seconds using a stopwatch.
- Do not go any further until the correct code is displayed.

JHVTB18B	1C	JHVTD60J	2d
JHVTB24C	2C	JMVT12B	1E
JHVTB36D	3C	JMVT16C	2E
JHVTC36D	4C	JMVT17C	3E
JHVTC42F	5C	JMVT20D	4E
JHVTD42F	6C	JHVVB24D	1A
JHVTC48G	7C	JHVVB36D	2A
JHVTD48G	8C	JHVVC36D	3A
JHVTC60H	9C	JHVVC48H / C60H	4A
JHVTD60H	1d	JHVVD48H / D60H	5A

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- Once the model configuration is saved there will be a 03-code displayed.
- This is a heater pack set up error.
- It is normal due to there is no heater pack info stored in the board.
- SW3 is the switch bank for this. Switch numbers 3,4,5,6 are used to make the selections.
- Each heater pack size has a particular setting. Settings are found in the install manual or ST-004-2023.
- Zero is off, One is on.
- From the diagram the switch set point(on or off) will be the white part.

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Heater kit models[1,2]	Nominal kW at 240 V	Airflow configuration heat dip switch setting*	Aux heat configuration heatkit selection dip switch setting	Air handler models (CFM[3])										
				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

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- Once the correct heater pack setting complete press and hold the push button for 6-10 seconds.
- Use a stopwatch for this.
- A verification code will appear and confirm the correct heater is saved.
- If the heater is too big for the air handler, it will not save it.
- If – appears no heater info was saved.

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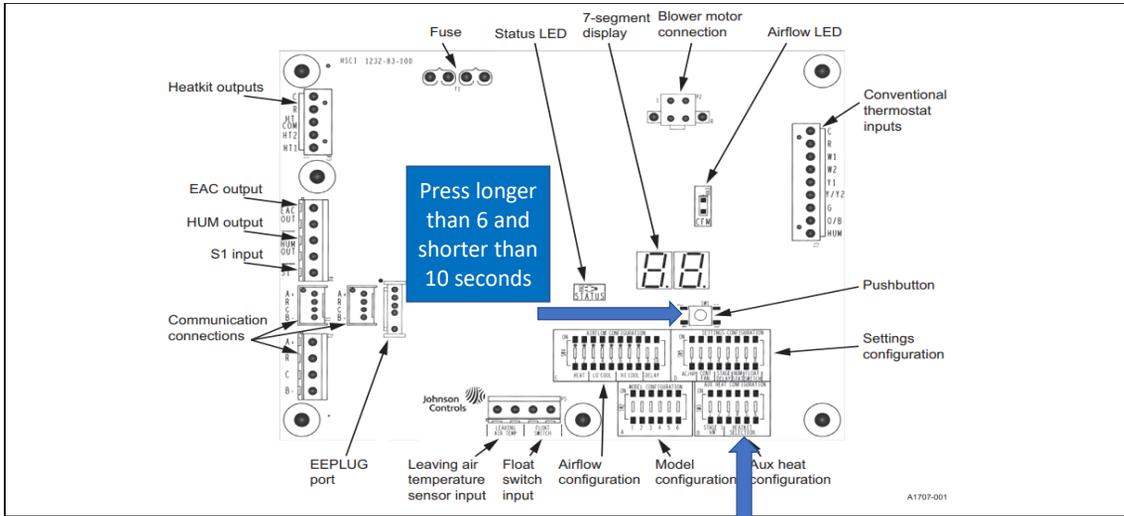
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8HK*6500206	02
8HK*6500506	05
8HK*6500806	08
8HK*6501006	10
8HK*6501506	15
8HK*6502006	20
8HK*6502506	25
8HK*6501025	31
8HK*6501525	32
8HK*6502025	33
8HK*6502525	34

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- Once the heater configuration is saved there will be a 04-code displayed.
- This is a heater pack staging set up error.
- SW3 is the switch bank for this. Switch numbers 1 and 2 are used to make the selections.
- Heater pack staging is what is required now. Settings are found in the install manual or ST-004-2023.
- Zero is off, One is on.
- From the diagram the switch set point(on or off) will be the white part.

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- SW3 switch 1 and 2 are staging set up.
- Only valid on 5 possible heat kits. Listed to the right.
- Refer to the installation manual or ST-004-2023 for info.
- If not one of the listed heaters factory setting is required.
- Press the push button for 6-10 seconds to save.

HEAT KIT STAGING @ 240V	W1	W2	W1+W2
8HK*6501506	4.8	9.6	14.4
8HK*6502006	9.6	9.6	19.2
8HK*6502506	9.6	14.4	24
8HK*6502025	9.6	9.6	19.2
8HK*6502525	12	12	24

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Table 15: Aux heat configuration - stage 1 kW dip switch settings

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

Switches 1 and 2 on the SW3 Bank

Set Electric Heat staging Sequence as indicated in Table 15
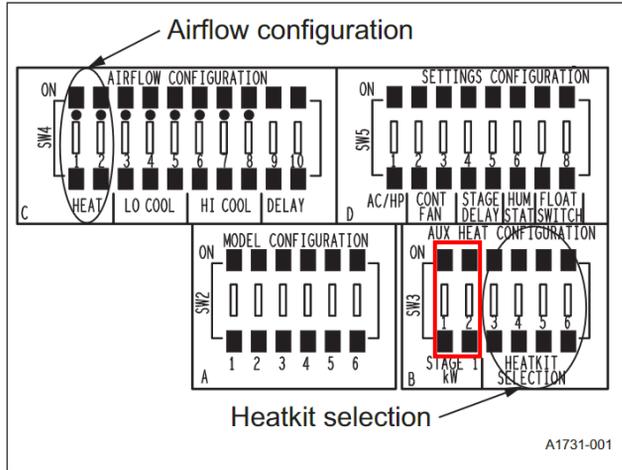
Figure 27: Variable speed board dip switch locations - heat kit
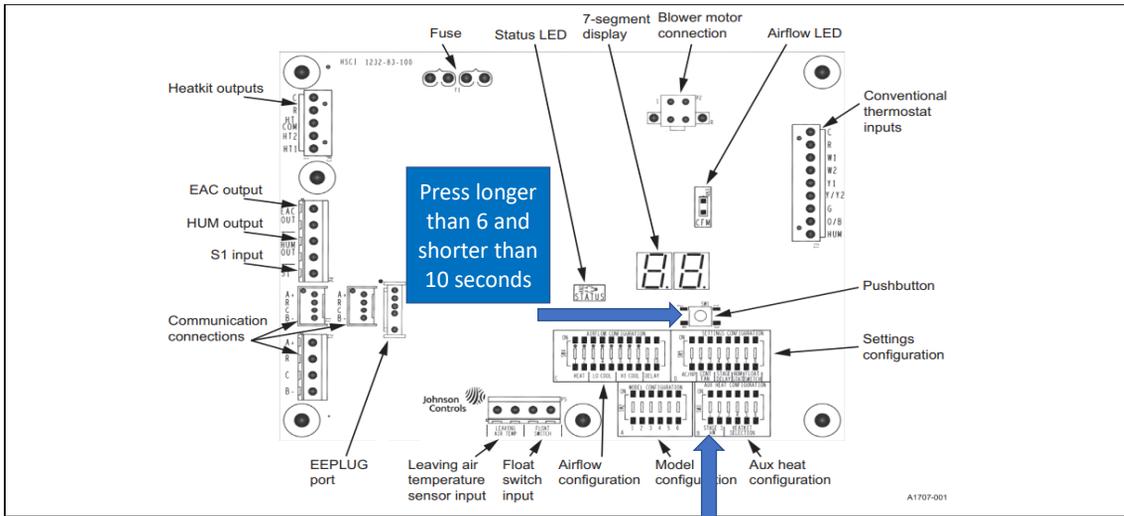
15

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Table 15: Aux heat configuration - stage 1 kW dip switch settings

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

Table 18: Electric heat performance data: 208/230-1-60 and 208/230-3-60

Heater models[1,2]		Nominal kW at 240 V	Total heat [3]				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 17**.

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- Once those three switches are set, power off the unit and continue the installation.
- The remaining switches do not require the push button to be pressed.
- Set the dip switches for SW4 and SW5 to match the system being installed.
- St-004-2023 will have details for the remaining switches.
- If using in a communication system, the Hx3 stat **MUST** have 3.00 software.
- The DSN from the Wi-Fi screen is required if calling the factory to push.
- The float switch feature is only active with a Hx3 stat and communicating.

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Electric Heat Minimum CFM Settings

Table 13: Electrical heat: minimum fan CFM for single-phase heatkits

Heater kit models[1,2]	Nominal kW at 240 V	Airflow configuration heat dip switch setting*	Aux heat configuration heatkit selection dip switch setting	Air handler models (CFM[3])										
				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 15** and the heat output section of this manual.
* To increase airflow by approximately 20%, adjust the HEAT switches 1 and 2, located in the airflow configuration SW4 switch bank, from 00 to 01.

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HUMIDISTAT Switch

The HUMIDISTAT switch configures the control to monitor the humidity switch input.

With the switch in the OFF position, the control ignores the HUM input.

With the switch in the ON position, the control monitors the HUM input to control the blower speed for dehumidification during cooling operation.
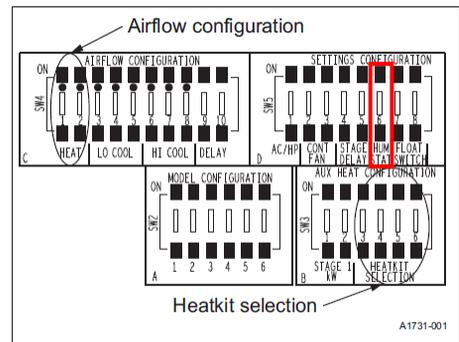
Figure 27: Variable speed board dip switch locations - heat kit

The HUM input is strictly for dehumidification during cooling operation and has no control over the HUM OUT humidifier connections.

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AC/HP Switch

The AC/HP switch configures the control to operate correctly with an air conditioner (ON position) or heat pump (OFF position).

With the switch in the OFF position, a Y call is treated as a heat pump heating call unless accompanied by an O (reversing valve) call.

However, if the control is in S1 mode, a Y call with an O/B call is treated as a heat pump heating call.

Figure 27: Variable speed board dip switch locations - heat kit

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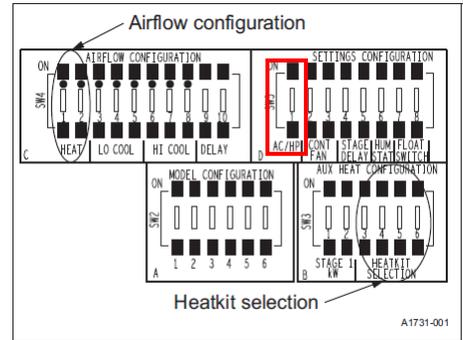
Single-stage thermostat
Stage delay

For conventionally wired systems, it is possible to use a single-stage thermostat even if the air handler is equipped with a multi-stage accessory electric heat kit

Adjust the STAGE DELAY dip switch settings to allow a W2 heat kit output when a W1 input is present after a 10 min, 15 min, or 20 min delay. See Table 4

Table 4: Stage delay switches

STAGE DELAY	Time (min)
00	disabled
01	10
10	15
11	20

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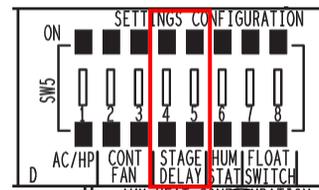
Float Switch Input

An optional switch may be connected to the FLOAT SWITCH INPUT terminals on the control board.

This feature is only functional when used with the communicating control.

To enable this feature, see dip switches 7 and 8 in switch bank SW5. An OFF/OFF (0, 0) position ignores this input.

If using a normally closed switch, set these switches in the OFF/ON (0, 1)position.

If using a normally open switch, set these switches in the ON/OFF (1, 0) position.

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Float Switch Input

At the room thermostat system settings menu, the FLOAT SWITCH setting must be changed from its default (disabled)setting.

If using a normally closed switch, choose Enabled (Open). If using a normally open switch, choose Enabled (Closed).

If using a normally closed switch, choose Enabled (Open). If using a normally open switch, choose Enabled (Closed).

TABLE 11: Float Switch Settings (AHV, AVC, MVC, AVV, and 2-Stage Variable Speed ECM Furnace)

Name	Default Setting	Available Settings	Explanation
Float Switch	Disabled	Enabled (Open), Enabled (Closed), Disabled	Allows you to activate an optional condensate float switch (S1-ACS2). If a normally closed (NC) switch is used, choose Enabled (Open). If a normally open (NO) switch is used, choose Enabled (Closed).

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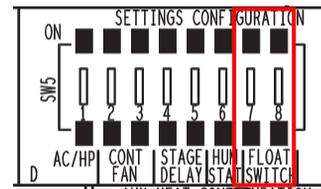
Setting Continuous Fan Airflow

The CONT FAN switches can be adjusted to increase airflow during a fan-only call. See Table 9, which shows values as a percentage of maximum airflow.

Table 9: Continuous fan switches

CONT FAN	% of maximum airflow
00	40
01	60
10	80
11	100

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Comfort Settings

Comfort settings

Table 10: Comfort setting selection

Delay tap	Comfort setting
A = 00	Normal
B = 01	Humid
C = 10	Dry
D = 11	Temperate

until the wall thermostat setpoint is reached.

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JHVT With HMH7
New S1 Circuit
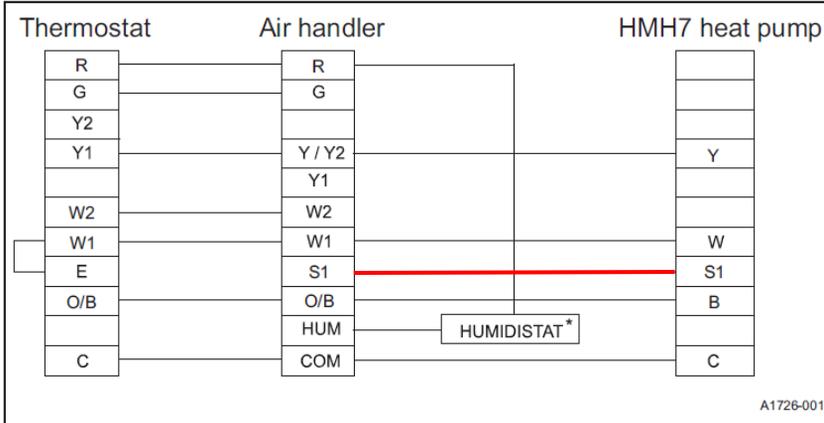
NOTE

Figure 18: Control wiring - premium ECM blower and HMH7 heat pump - conventional wiring

JHVT does not require the HMH7 Relay Kit

Drier came with the Kit.

Drier is ordered Separately with an HMH7 Application

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JHVT With HMH7
S1 Function

The S1 terminal connects the air handler and the HMH7 horizontal dis-charge unit.

When S1 functionality is enabled (see Table 5), the system operates the indoor blower to better take advantage of the modulating features of the HMH7 unit, as well as changing the reversing valve logic to operate with a call for heating.

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JHVT With HMH7
S1 Function

To enable S1 mode, with the power off and no field thermostat wires connected to the air handler control board, complete the following steps:

1. Set all configuration jumper settings such as heat, cool, AC/HP, continuous fan speed, and heat kit selection to the appropriate positions

2. Place a wire jumper from the R terminal on the communicating wiring connection to the S1 input as shown in Figure 24

3. Apply power to the air handler.

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JHVT With HMH7
S1 Function

To enable S1 mode, with the power off and no field thermostat wires connected to the air handler control board, complete the following steps:

1. Set all configuration jumper settings such as continuous fan speed, and heat kit selection to positions

2. Place a wire jumper from the R terminal on th wiring connection to the S1 input as shown in

3. Apply power to the air handler.

Field-installed jumper

Figure 24: Variable speed board S1 jumper

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JHVT With HMH7
S1 Function

4. When the control is in standby mode, push and hold the pushbutton located below the 7-segment display for more than 6 s, then release the pushbutton. The 7-segment display should display S1.

5. Remove power from the air handler and field-installed jumper wire.

The Unit is now in the S1 Mode.

This Mode can be Removed if needed.

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JHVT Control Board

Replacement Blower Motor for the JHVT

The Replacement Motor will come as an Un-Programed Motor.

The JHVT Control will Program the Motor Automatically.

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JHET / JHVT

All Models are ready to Install in Horizontal Left Applications.

Horizontal Right- C48G and C60 H Models Require the Horizontal Baffle shipped with the unit to be Installed by Securing to the Delta Plates.

Insert the Horizontal Baffle Plate into the end of the Coil. Insert one end of the Baffle Plate into the Top side of the Primary Drain Pan.

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Baffle Plate
Horizontal Right

C48G and C60 H Models

COIL

HORIZONTAL BAFFLE PLATE

PRIMARY DRAIN-PAN
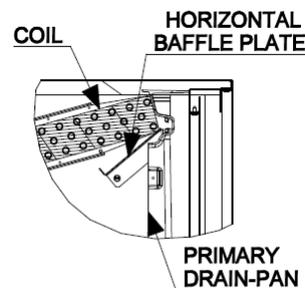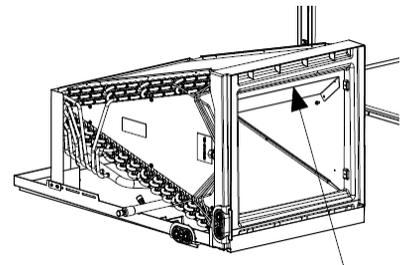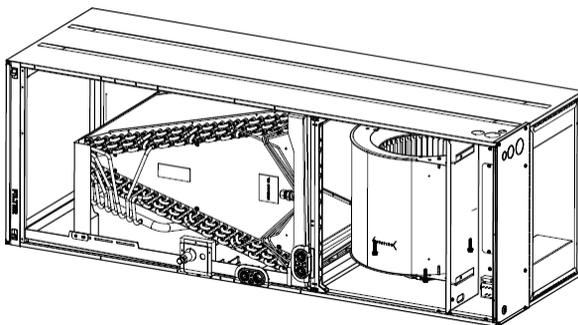
FRONT SECTIONAL VIEW

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Duct Flanges / Plenum Connection

Duct flanges

Duct flanges are integrated into the casing. Fold the flanges into position and use screws to anchor the flanges.
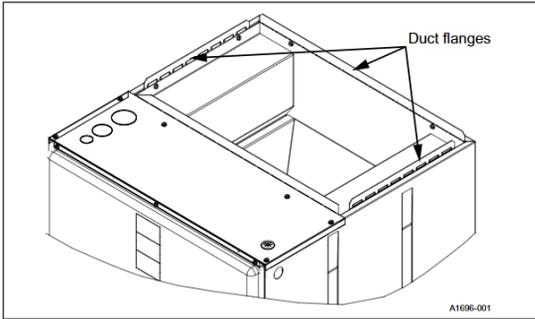
Figure 7: Duct attachment
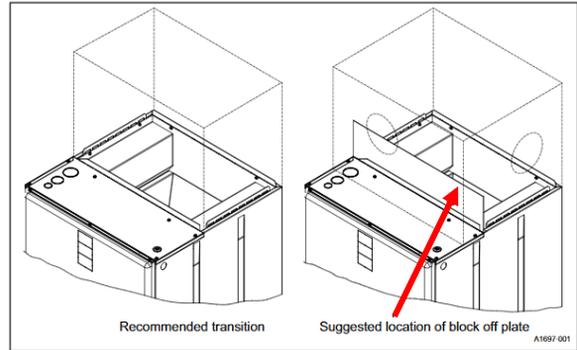
Figure 8: Ductwork transition

Recommended transition

Suggested location of block off plate

Blank Off Plate

Brand	X	X = JCI Evaporator Coil	
Type	A	A = A Coil S = Slab Coil	
Configuration	F	F = Full Case, Up/Dn H = Horizontal Cased U = Uncased, Up/Dn D = Horizontal Duct	
Cabinet	B	A = 14.5" B = 17.5" C = 21.0" D = 24.5"	
Nominal Capacity	36	18 = 1.5 Ton 24 = 2 Ton 30 = 2.5 Ton 36 = 3 Ton	42 = 3.5 Ton 48 = 4-Ton 60 = 5-Ton
Slab Size	D	A = 2R-14-18 B = 2R-16-18 C = 2R-20-18 D = 3R-20-14 E = 3R-22-14	F = 3R-24-14 G = 3R-28-12 H = 3R-32-12 J = 4R-28-12
Metering Device	BA	BA-BW = TXV P/N E1-E9 = EEV P/N XX = no valve (flex)	
Accessories	N	S = A2L Sensor N = None (No Sensor)	
Generation	1	1 = 1st Gen 2 = 2nd Gen etc	
Style Letter	A	A = Style A B = Style B etc	

Next Generation Indoor Coils – XAF / XAH

The New Coils are A Coil configurations.

XAF is Dedicated Upflow / Downflow

XAH is Dedicated Horizontal Left or Right

There are no more Multi Position Model Coils.

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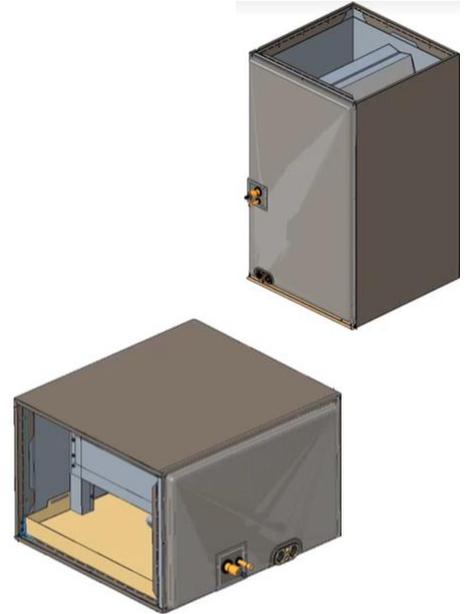
37

Next Generation Indoor Coils – XAF / XAH

There is a New Feature on the Indoor Coil.

Pressure Port Locations for taking Static Pressure Readings.

The cabinet brace behind each location has foam insulation on it. Once this is pierced the hole needs to be sealed.

First production coils will have the Mouseholes on the door but there will not be a hole in the cabinet brace. Once pierced the hole needs to be sealed.

This is due to tooling change-overs from current coils to the new coils.

When the hole is added there will be a Letter and an Update to the Install Manual. Currently this feature is not mentioned in the Install Manual.
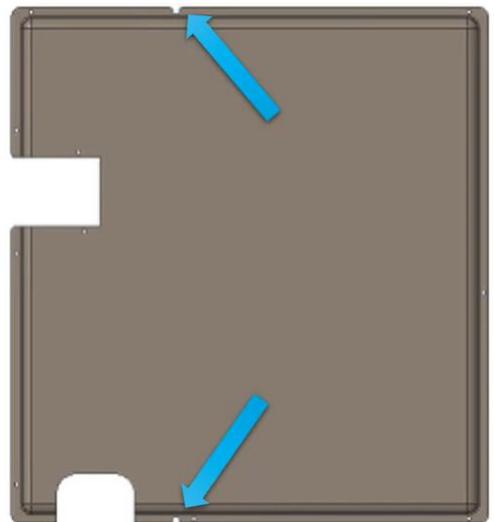
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Static Pressure Ports

Figure 38: Pressure measurement access points
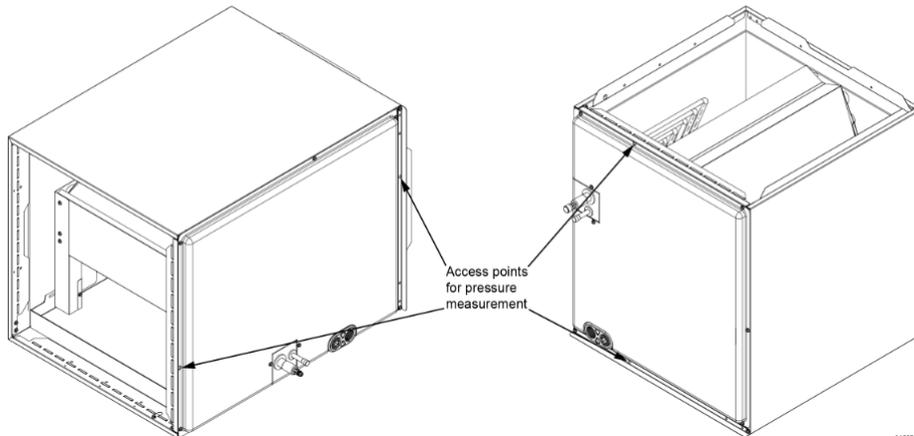
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Next Generation Indoor Coils – XAF / XAH

All current model CM indoor coils require the addition of condensate deflectors when used in the Horizontal Right position.

The deflectors were installed on the inside of the coil where it attached to the drain pan.

New Horizontal coils (XAH) do not have these. There is a metal extension pan that is Required on Horizontal Right applications. This is on a few select models that have 3 and 4 row coil slabs.

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Next Generation Indoor Coils – XAF / XAH

The pan extension is easier to install before the supply duct work is installed.

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Recommended Distributor Adjustment

Adjust the distributor position to allow the preformed liquid line assembly to correctly line up with the hole in the tubing access panel.

Raise the distributor body approximately 2 in. toward the top of the coil or what would be the top of the coil if the coil was in the up-flow position and adjust as necessary. See Figure 10.

Figure 10: Recommended distributor adjustment
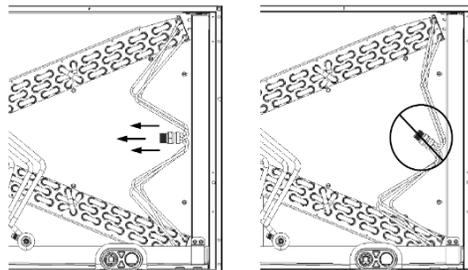
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TXV Installation

Keep the Brass Distributor Nut for use on Liquid Line. Leave the PTFE Washer in Place.

Distributor and Liquid Line connections are Hand Tight and then a 1/4 Turn.

External Equalizer Connection Is Hand Tight and a 1/3 Turn.

Figure 12: TXV installation

- Liquid line/TXV coupling
- PTFE washer
- TXV
- TXV/distributor coupling
- PTFE washer
- Distributor
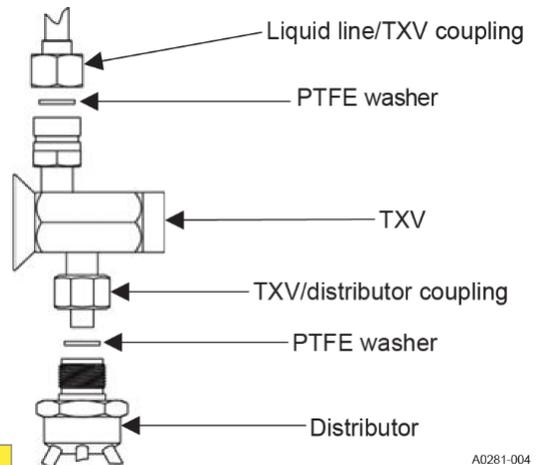
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⚠ **CAUTION**

Do not over torque. Do not use slip joint pliers. This will distort the aluminum distributor and the brass fitting (potentially causing leaks).

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Next Generation Indoor Coils – XAF / XAH

Repositioning the transition angle for downflow or horizontal right application with a furnace: XAF and XAH coils

About this task: The coil cabinet has a factory installed transition angle on the bottom front side of the cabinet. For downflow or horizontal right applications with a furnace, you must reposition this angle to the top front side of the cabinet.

Figure 25: XAH horizontal right application with furnace

- Tie plate
- Furnace
- Coil
- Transition angle

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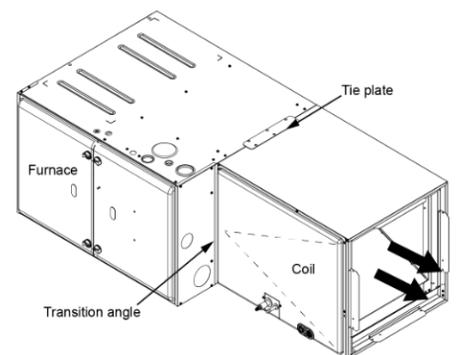
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Transition Angle

Figure 26: XAH horizontal left application with furnace

Figure 25: XAH horizontal right application with furnace

Original Location

Repositioned

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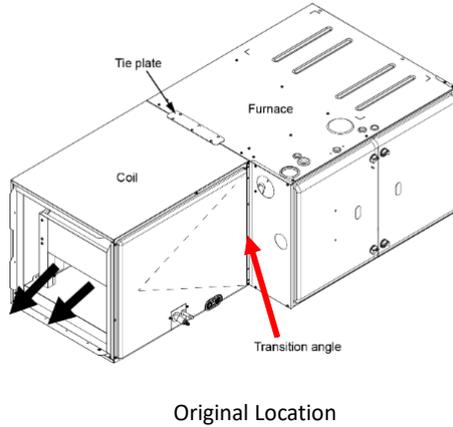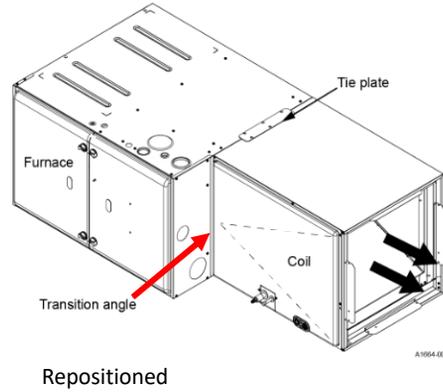
Airflow Charts

There are Charts for each Model Coil and Positioning

Chart below is one example

Table 10: XAH airflow data (CFM) - horizontal left

Models	CFM								
	400	600	800	1000	1200	1400	1600	1800	2000
	External static pressure (in. W.C.)								
XAHC60H	0.02	0.05	0.08	0.12	0.17	0.23	0.30	0.37	0.46
XAHD60H	0.02	0.04	0.06	0.08	0.12	0.16	0.20	0.25	0.30
XAHD60J	0.03	0.06	0.09	0.13	0.17	0.22	0.29	0.35	0.43

ⓘ Note:
- Airflow data is for dry coil conditions only, tested without filters.
- For optimal performance, external static pressures of 0.2 in. W.C. to 0.6 in. W.C. are recommended. Applications above 0.6 in. W.C. are not recommended.

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Airflow Setup

To determine indoor airflow, follow these steps:

To measure actual airflow, it is not an acceptable method to just check the jumper pin setting tables and assume 0.5in. W.C total external static pressure

On a modular air handler, measure the return air static pressure between the indoor coil and entering air side of the modular air handler.

On a gas furnace or single-piece air handler, measure the static pressure with a manometer between the filter and return air opening of the indoor equipment.

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Airflow Setup

On a single-piece or modular air handler, take a second reading in the supply air ductwork leaving the indoor equipment.

On a gas furnace, take a second reading after the heat exchanger, but before the indoor coil.

Add the negative return static to the positive supply static to determine the total system static pressure. Treat the negative return static as a positive pressure.

The two added together is your Total External Static Pressure.
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Thank You

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