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# ENVISION™

## AIR HANDLER

R-410A Refrigerant

2-5 Tons



Submittal Data

English Language/IP Units

SD1008HN 07/15

Contractor: \_\_\_\_\_ P.O.: \_\_\_\_\_

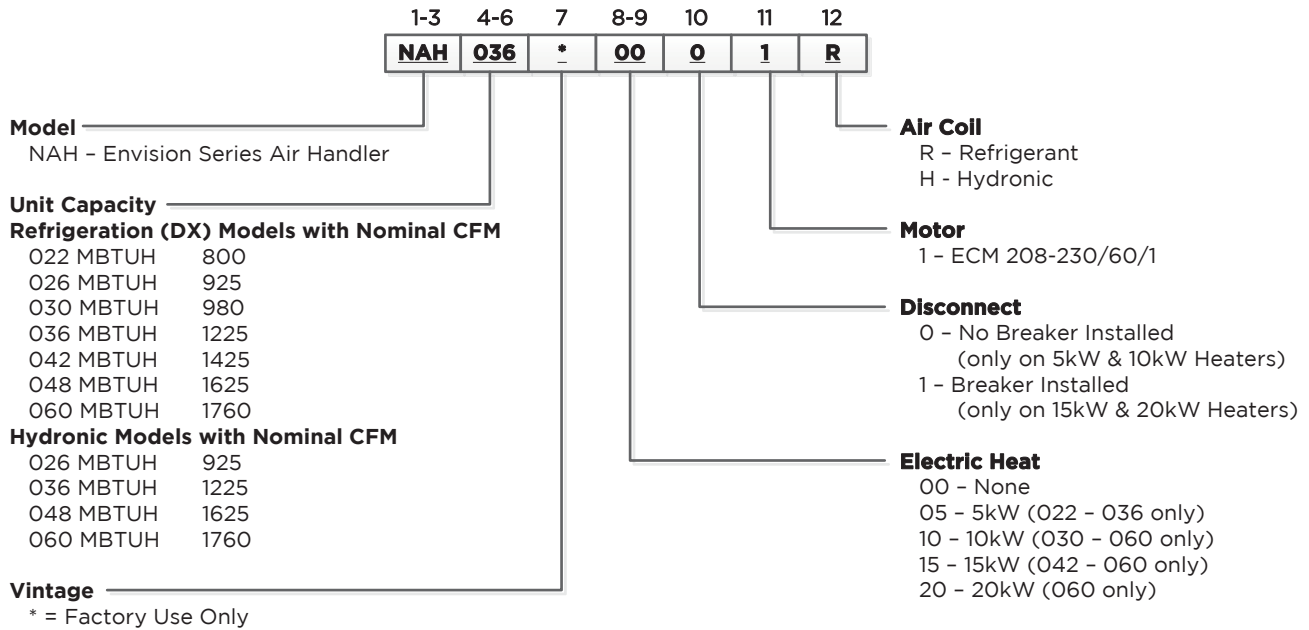
Engineer: \_\_\_\_\_

Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

**ENVISION AIR HANDLER**  
2-5 Tons



## Model Nomenclature



**Rev.:** 08 April 2013D

**NOTE:** To field convert the NAH042-060 to bottomflow air discharge, the NAHBC kit must be ordered.

## Compatibility

### Air Handler Sizing Selection

The Envision Air Handlers are designed for R-410A refrigerant and should be matched with 5 Series Split compressor section according to the table below.

Air Handler	Indoor Split Model (Single)	Indoor Split Model (Dual Capacity)	Outdoor Split Model (Dual Capacity)	Airflow(CFM)	Electric Heat (kW)
<b>NAH022B***1R</b>	NSZ022	-	-	800	5
<b>NAH026B***1R</b>	-	NDZ026	NDS026	925	5
<b>NAH030B***1R</b>	NSZ030	-	-	980	5, 10
<b>NAH036B***1R</b>	NSZ036	-	-	1225	5, 10
<b>NAH036B***1R</b>	-	NDZ038	NDS038	1225	5, 10
<b>NAH042B***1R</b>	NSZ042	-	-	1425	10, 15
<b>NAH048B***1R</b>	NSZ048	-	-	1625	10, 15
<b>NAH048B***1R</b>	-	NDZ049	NDS049	1625	10, 15
<b>NAH060B***1R</b>	NSZ060	-	-	1760	10, 15, 20
<b>NAH060B***1R</b>	-	NDZ064	NDS064	1760	10, 15, 20
<b>NAH060B***1R</b>	NSZ070	-	-	1760	10, 15, 20
<b>NAH060B***1R</b>	-	NDZ072	NDS072	1760	10, 15, 20

6/9/08

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## **General Specifications**

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### **Refrigerant Air Coil**

Designed for R-410A refrigerant. Configured as an 'A' coil, rifled copper tubes and enhanced corrugated lanced aluminum fins to provide high efficiencies at low face velocities. Exclusive FormiShield™ coating for added protection.

### **Hydronic Air Coil**

Designed for hydronic applications. Configured as an 'A' coil, smooth copper tubes and enhanced corrugated lanced aluminum fins that provide increased performance. Exclusive FormiShield™ coating for added protection.

### **Filter Rack**

Integral filter rack holds 1 in. or 2 in. filters (field changeable). 1 in. MERV 3 disposable filter included.

### **Cabinet (Encased Models)**

Cabinets are designed for upflow, horizontal, and bottomflow applications. Constructed of heavy gauge environmentally-responsible galvanized steel and finished with corrosion-resistant powder coating which meets ASTM B117 (1,000 hour salt spray). Front access panel for ease of service.

### **Insulation (Encased Models)**

The interior surfaces shall be lined with 1/2" thick multi-density, cleanable aluminum foil coated glass fiber which meets NFPA 90A requirements, air erosion and mold growth limits of UL-181, stringent fungal resistance test per ASTM-C1071 and ASTM G21, and zero level bacteria growth per ASTM G22.

### **Controls**

24 volt 75VA transformer, ECM interface board allows for blower speed selection and thermostat inputs.

### **Auxiliary/Emergency Heat**

Optional factory installed electric heat. 15 kW and 20 kW heaters include circuit breakers.

### **Drain Pans**

Two e-coated galvanized steel drain pans included, one for vertical and one for horizontal applications. The pans come equipped with primary and secondary drain connections.

### **Expansion Device**

Factory installed TXV with internal check valve. The TXV is inside the cabinet on the encased models.

### **Refrigerant Connections**

Suction and liquid lines have sweat connections extended outside the cabinet on encased models for ease of connection.

### **Hydronic Connections**

Water in and water out lines have sweat connections extended outside the cabinet on encased models for ease of connection.

Contractor: \_\_\_\_\_ P.O.: \_\_\_\_\_

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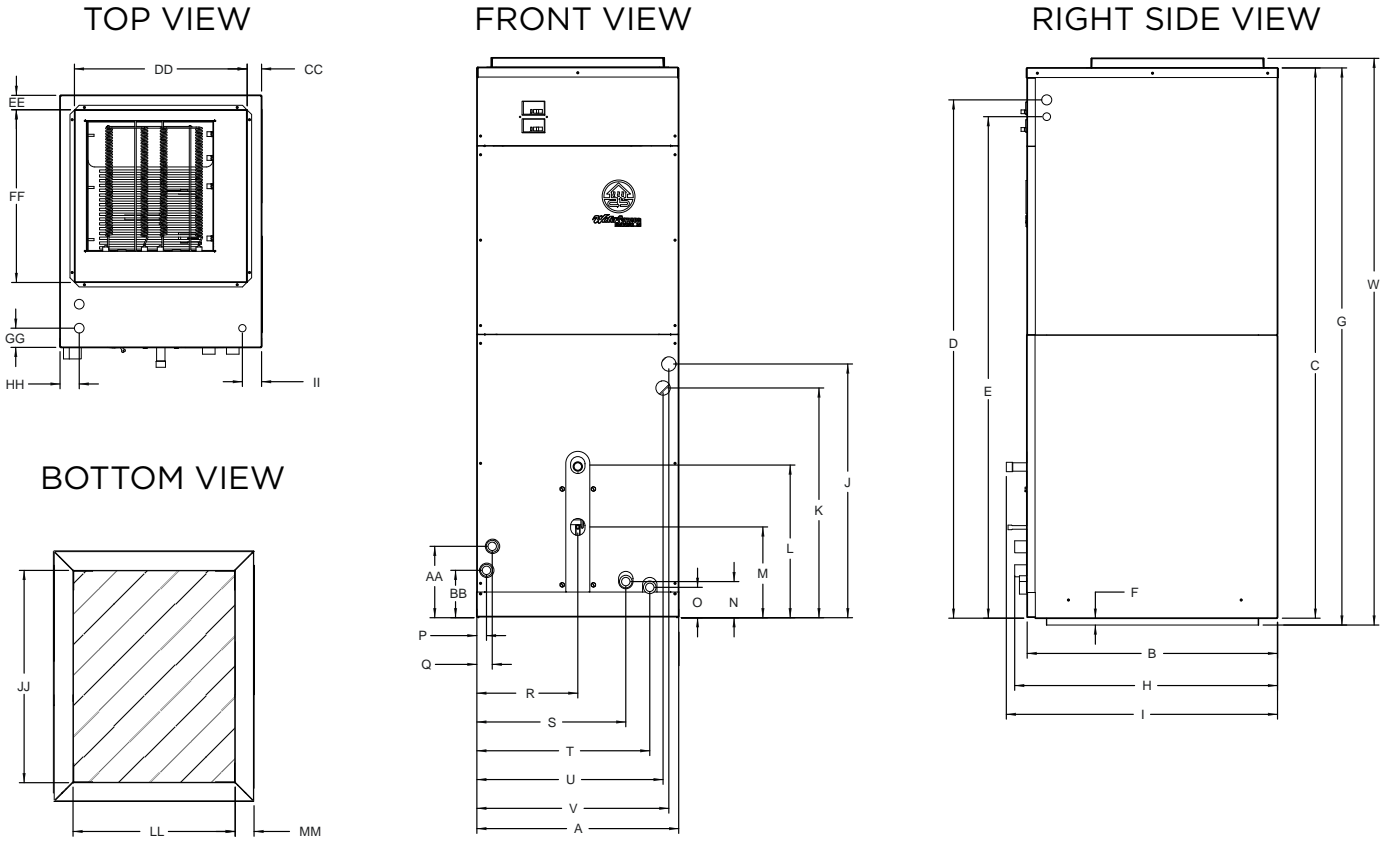
Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

**ENVISION AIR HANDLER**  
2-5 Tons



## Dimensional Data - DX Air Handlers

### Top Flow/Horizontal Unit Configuration



Topflow/ Horizontal Configuration	Overall Cabinet											Refrigerant/Water Connections								
	A B C			D E		F		G H		I J K		L	M	N	O	P	Q	R	S	
	Width	Depth	Height	3/4" cond Power Supply	1/2" cond Low Voltage	Return Air Duct Flange						Suction / Water Out	Liquid / Water In							
026-060	in. cm.	21.0 53.4	26.1 66.3	57.3 145.6	54.0 137.2	52.3 132.7	0.7 1.8	58.1 147.4	27.4 69.6	28.3 71.8	26.8 68.1	24.3 61.7	16.0 40.6	9.8 24.9	4.0 10.2	3.1 7.9	0.8 2.0	1.5 3.9	10.5 26.7	15.5 39.4

															GG	HH	II					
S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	1" cond Power Supply	1/2" cond Low Voltage	JJ	KK	LL	MM			
15.5	18.0	19.5	20.1	59.5	15.1	53.1	51.3	7.8	5.2	1.5	18.0	1.5	18.0	2.0	2.0	2.0	22.1	2.0	16.9	1.96		
39.4	45.8	49.5	51.0	151.1	38.4	134.9	130.2	19.8	13.2	3.8	45.7	3.8	45.7	5.1	5.1	5.1	56.2	5.0	42.9	5.0		

Condensate is stainless steel 3/4" O.D. tube  
Discharge flange is field installed and extends 1" (25.4 mm) from cabinet

Rev: 4/28/14

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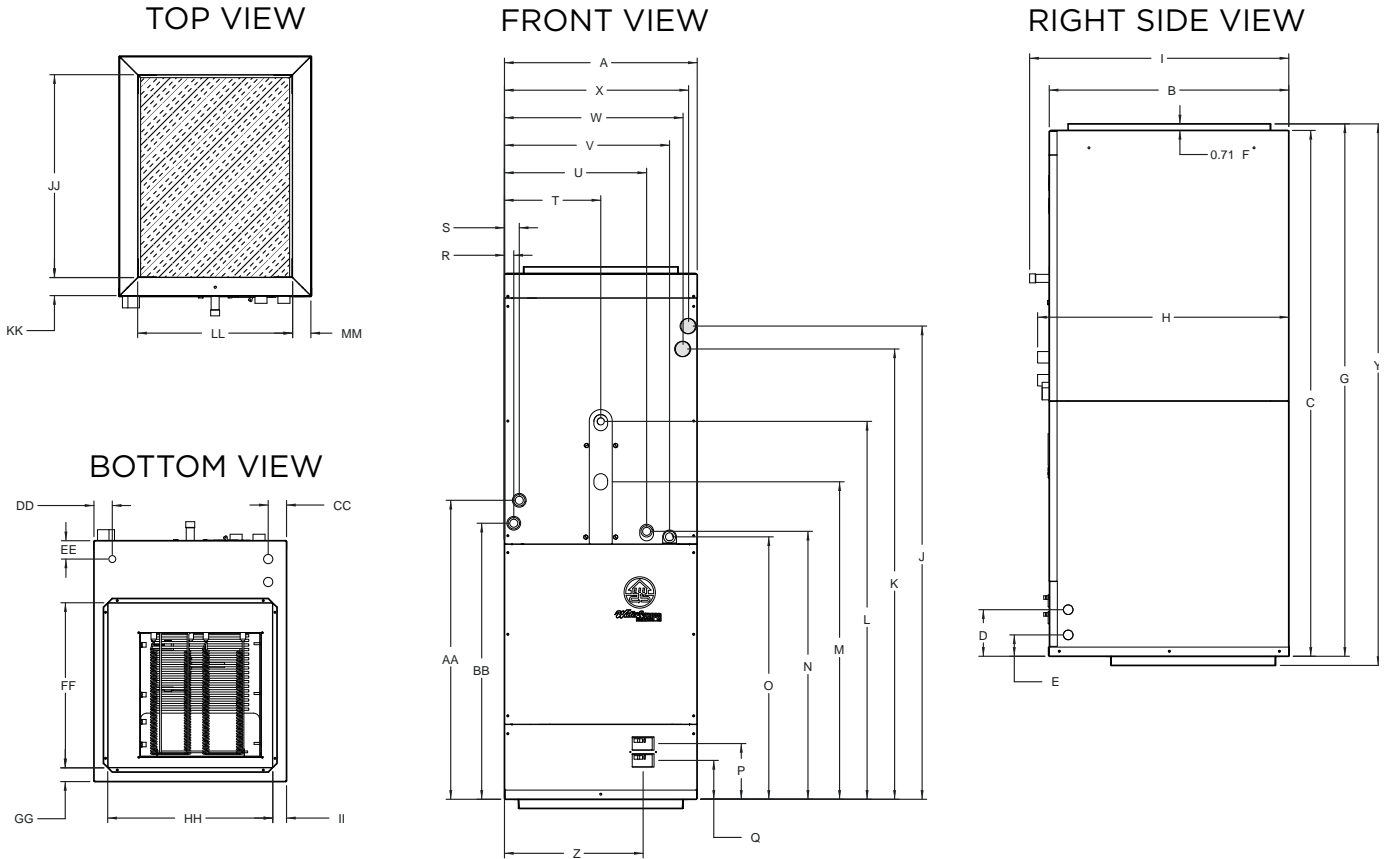
Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

**ENVISION AIR HANDLER**  
2-5 Tons



# Dimensional Data - DX Air Handlers

## Bottom Flow Unit Configuration



Bottomflow Configuration	Overall Cabinet											Refrigerant/Water Connections							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
				3/4" cond Low Voltage	1" cond Power Supply	Return Air Duct Flange													Suction / Water Out
026-060	in.	21.0	26.1	57.3	5.1	3.3	0.7	58.1	27.4	28.3	51.9	49.4	41.2	34.9	29.2	28.2	6.1	4.2	0.9
	cm.	53.4	66.3	145.6	12.9	8.5	1.8	147.4	69.6	71.8	131.8	125.5	104.7	88.7	74.2	71.6	15.4	10.8	2.4

S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	
1.5	10.5	15.5	18.0	19.5	20.1	59.1	15.1	32.9	30.4	1" cond Power Supply	1/2" cond Low Voltage	2.0	2.0	18.0	1.5	18.0	1.5	22.1	2.0	16.9	1.96
3.9	26.7	39.4	45.8	49.5	51.0	150.0	38.4	83.6	77.2	5.1	5.1	5.1	45.7	3.8	45.7	3.8	56.2	5.0	42.9	5.0	

Condensate is stainless steel 3/4" O.D. tube  
Discharge flange is field installed and extends 1" (25.4 mm) from cabinet

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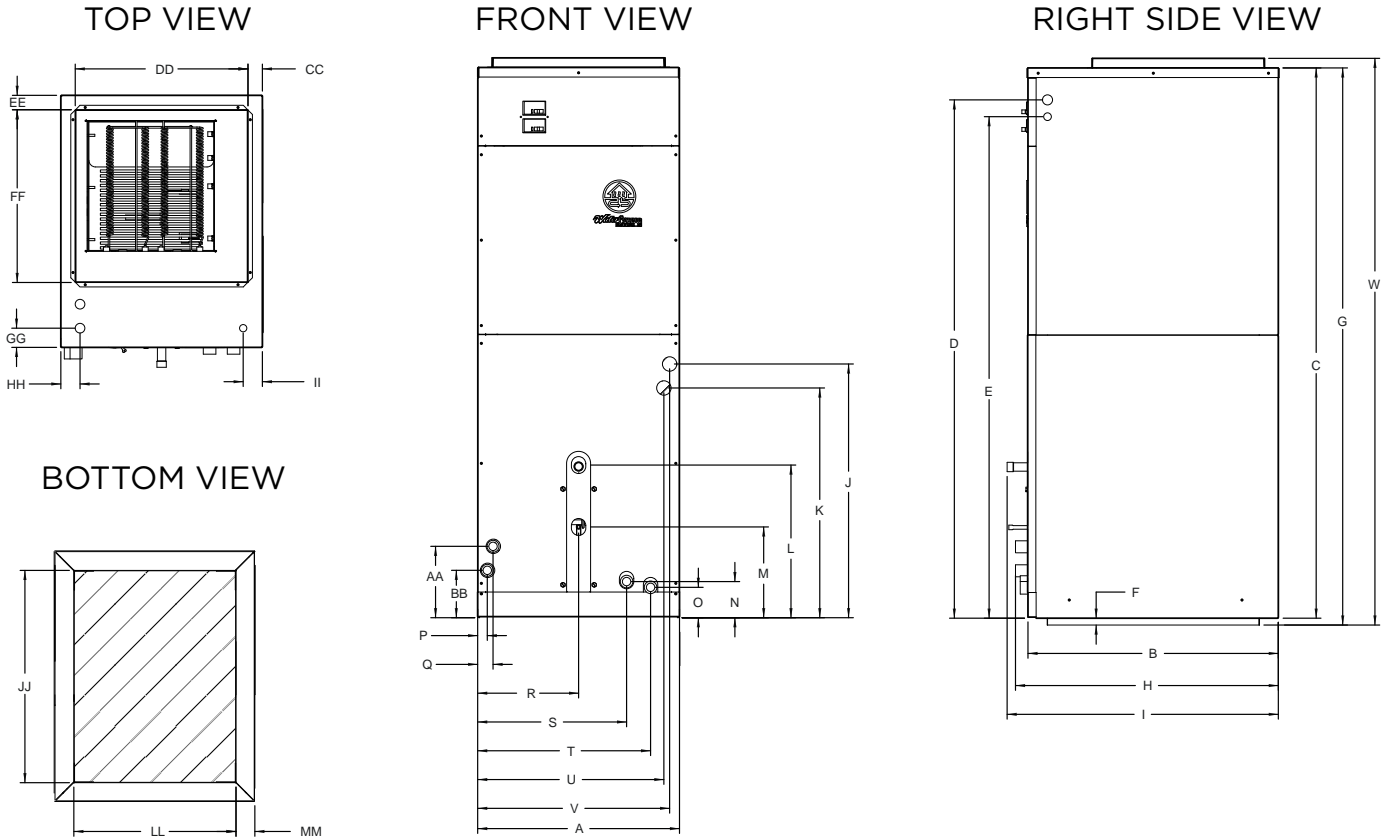
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**ENVISION AIR HANDLER**  
2-5 Tons



# Dimensional Data - Hydronic Air Handler

## Top Flow/Horizontal Unit Configuration



Topflow/ Horizontal Configuration	Overall Cabinet											Refrigerant/Water Connections								
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
	Width	Depth	Height	3/4" cond Power Supply	1/2" cond Low Voltage	Return Air Duct Flange						Suction / Water Out	Liquid / Water In							
026-060	in.	21.0	26.1	57.3	54.0	52.3	0.7	58.1	27.4	28.3	26.8	24.3	15.9	9.5	4.0	3.1	0.8	1.5	10.5	15.5
	cm.	53.4	66.3	145.6	137.2	132.7	1.8	147.4	69.6	71.8	68.1	61.7	40.4	24.0	10.2	7.9	2.0	3.9	26.7	39.4

														GG	HH	II				
S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	1" cond Power Supply	1/2" cond Low Voltage	JJ	KK	LL	MM	
15.5	18.0	19.5	20.1	59.5	15.1	53.1	51.3	7.8	4.9	1.5	18.0	1.5	18.0	2.0	2.0	2.0	22.1	2.0	16.9	1.96
39.4	45.8	49.5	51.0	151.1	38.4	134.9	130.2	19.8	12.5	3.8	45.7	3.8	45.7	5.1	5.1	5.1	56.2	5.0	42.9	5.0

Condensate is stainless steel 3/4" O.D  
Discharge flange is field installed and extends 1" (25.4 mm) from cabinet

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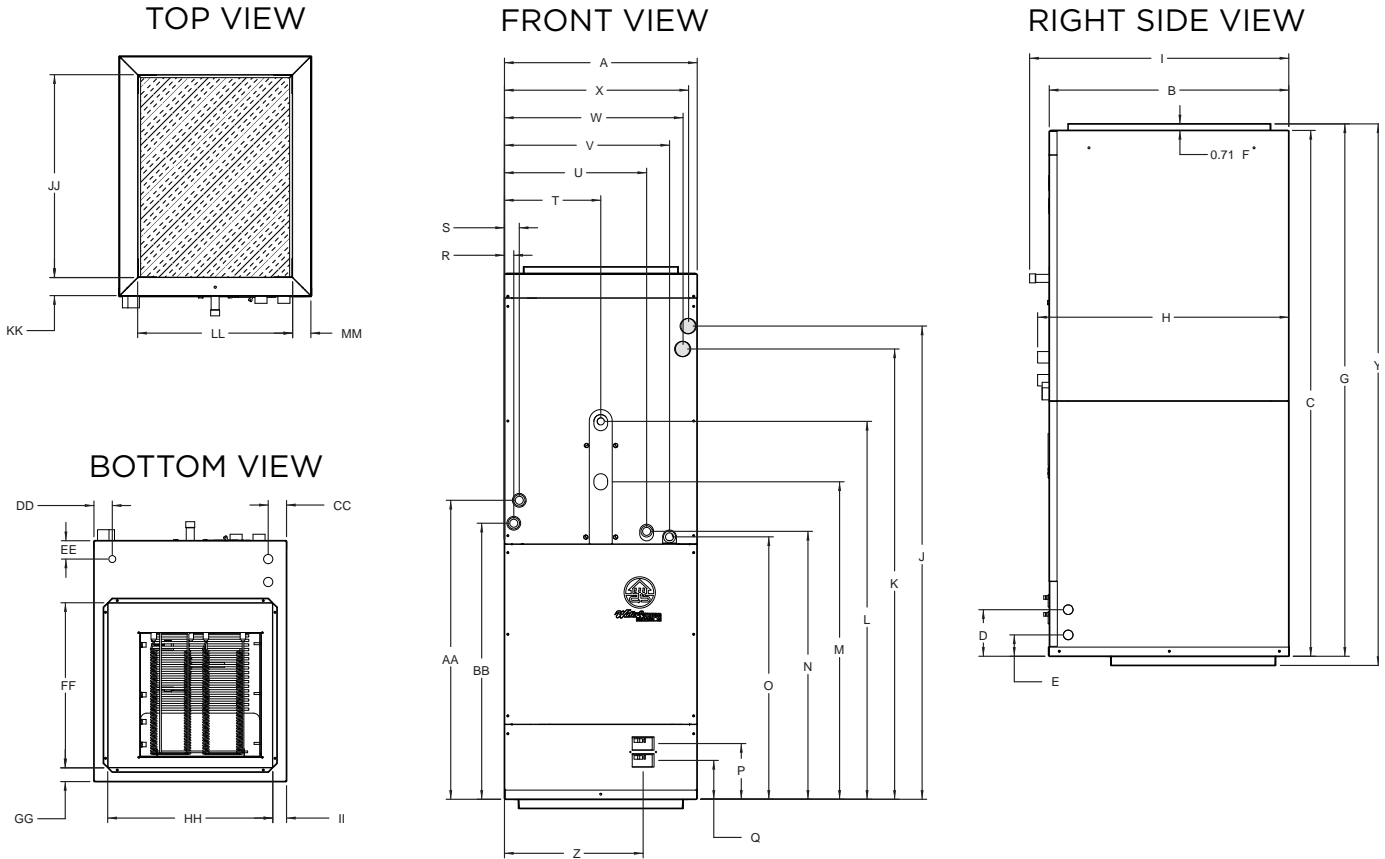
Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

**ENVISION AIR HANDLER**  
2-5 Tons



# Dimensional Data - Hydronic Air Handler

## Bottom Flow Unit Configuration



Bottomflow Configuration	Overall Cabinet											Refrigerant/Water Connections							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
				3/4" cond Low Voltage	1" cond Power Supply	Return Air Duct Flange						Suction / Water Out	Liquid / Water In						
026-060	in.	21.0	26.1	57.3	5.1	3.3	0.7	58.1	27.4	28.3	51.9	49.4	41.2	34.6	29.2	28.6	6.1	4.2	0.9
	cm.	53.4	66.3	145.6	12.9	8.5	1.8	147.4	69.6	71.8	131.8	125.5	104.7	87.9	74.2	72.7	15.4	10.8	2.4

S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM
1.5	10.5	15.5	18.0	19.5	20.1	59.1	15.1	32.9	30.4	1" cond Power Supply	1/2" cond Low Voltage		18.0	1.5	18.0	1.5	22.1	2.0	16.9	1.96
3.9	26.7	39.4	45.8	49.5	51.0	150.0	38.4	83.6	77.2	5.1	5.1	5.1	45.7	3.8	45.7	3.8	56.2	5.0	42.9	5.0

Condensate is stainless steel 3/4" O.D  
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## Pressure Drop

### Water Pressure Drop - Hydronic Coil

Flow gpm	Pressure Drop (PSI)						
	40°F	50°F	60°F	100°F	110°F	120°F	130°F
3.0	0.5	0.5	0.5	0.4	0.4	0.4	0.4
4.5	0.9	0.9	0.9	0.8	0.8	0.8	0.8
6.0	1.4	1.4	1.4	1.2	1.2	1.2	1.2
9.0	2.8	2.6	2.5	2.4	2.4	2.4	2.3
12.0	4.6	4.4	4.2	4.0	4.0	4.0	3.9
15.0	7.0	6.8	6.6	6.0	6.0	5.9	5.8

## Blower Performance

### Blower Performance Variable Speed ECM

Model	Max ESP (wg)	Blower Motor (hp)	HP CFM Setting		Normal Mode Htg & Clg			Dehumidification Mode Clg				Aux CFM Setting		Aux Emerg Mode
			S1	S2	Stg 2	Stg 1	Blower	S9	Stg 2	Stg 1	Blower	S5	S6	
022	0.50	1/2	On	On	900	700	450	Off	775	600	450	On	On	1000
	0.50	1/2	<b>Off</b>	<b>On</b>	<b>800</b>	<b>625</b>	<b>400</b>	Off	680	530	400	<b>Off</b>	<b>On</b>	<b>800</b>
	0.50	1/2	On	Off	700	540	375	Off	600	450	375	On	Off	775
	0.50	1/2	Off	Off	640	480	350					Off	Off	740
026	0.50	1/2	On	On	1050	800	525	Off	850	700	525	On	On	1150
	0.50	1/2	<b>Off</b>	<b>On</b>	<b>925</b>	<b>725</b>	<b>475</b>	Off	760	620	475	<b>Off</b>	<b>On</b>	<b>950</b>
	0.50	1/2	On	Off	800	625	425	Off	670	540	425	On	Off	925
	0.50	1/2	Off	Off	740	575	400					Off	Off	825
030	0.50	1/2	On	On	1150	950	600	Off	975	775	600	On	On	1250
	0.50	1/2	<b>Off</b>	<b>On</b>	<b>980</b>	<b>780</b>	<b>500</b>	Off	825	640	500	<b>Off</b>	<b>On</b>	<b>1000</b>
	0.50	1/2	On	Off	900	700	440	Off	750	580	440	On	Off	975
	0.50	1/2	Off	Off	800	630	425					Off	Off	900
036	0.50	1/2	On	On	1300	1025	760	Off	1105	871	760	On	On	1300
	0.50	1/2	<b>Off</b>	<b>On</b>	<b>1225</b>	<b>950</b>	<b>685</b>	Off	1041	808	685	<b>Off</b>	<b>On</b>	<b>1250</b>
	0.50	1/2	On	Off	1150	850	620	Off	940	690	620	On	Off	1225
	0.50	1/2	Off	Off	1075	800	550					Off	Off	1200
042	0.75	1	On	On	1500	1100	750	Off	1250	900	750	On	On	1550
	0.75	1	<b>Off</b>	<b>On</b>	<b>1425</b>	<b>1010</b>	<b>650</b>	Off	1180	840	650	<b>Off</b>	<b>On</b>	<b>1450</b>
	0.75	1	On	Off	1300	975	635	Off	1080	800	635	On	Off	1400
	0.75	1	Off	Off	1150	850	625					Off	Off	1275
048	0.75	1	On	On	1700	1300	975	Off	1400	1080	975	On	On	1700
	0.75	1	<b>Off</b>	<b>On</b>	<b>1625</b>	<b>1240</b>	<b>875</b>	Off	1350	1025	875	<b>Off</b>	<b>On</b>	<b>1550</b>
	0.75	1	On	Off	1450	1100	750	Off	1200	900	750	On	Off	1525
	0.75	1	Off	Off	1300	1000	675					Off	Off	1400
060	0.75	1	On	On	1850	1750	1175	Off	1540	1450	1175	On	On	1850
	0.75	1	<b>Off</b>	<b>On</b>	<b>1760</b>	<b>1625</b>	<b>1050</b>	Off	1460	1350	1050	<b>Off</b>	<b>On</b>	<b>1760</b>
	0.75	1	On	Off	1720	1575	1015	Off	1425	1300	1015	On	Off	1725
	0.75	1	Off	Off	1680	1525	975		1428			Off	Off	1700

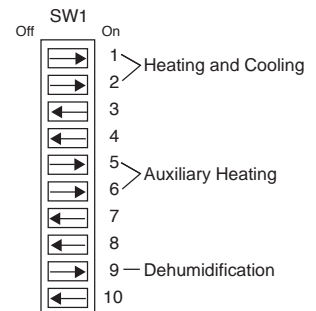
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#### Factory CFM settings are in boldface

CFM is controlled within 5% up to maximum ESP

Maximum ESP includes allowance for wet coil and standard filter

DIP switch 9 must be 'OFF' to select dehumidification mode



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**ENVISION AIR HANDLER  
2-5 Tons**



## Physical Characteristics

Air Handler Model Number (Refrigerant)		NAH022	NAH026	NAH030	NAH036	NAH042	NAH048	NAH060	
<b>Evaporator Coil</b>	Air Coil Total Face Area, ft2 [m2]	5.83 [0.54]							
	Tube outside diameter - in. [mm]	3/8 [9.52]							
	Number of rows	2			3				
	Fins per inch	12							
	Suction line connection - in. [mm] sweat	5/8 [15.87]				7/8 [22.22]			
	Liquid line connection - in. [mm] sweat	3/8 [9.52]							
Refrigerant		R-410a							
Nominal cooling capacity - tons [kW]		1.8 [6.44]	2.1 [7.59]	2.5 [8.79]	3 [10.55]	3.5 [12.30]	4 [14.06]	5 [17.58]	
Condensate drain connection - (O.D.) in. [mm]		3/4 [19.05]							
Blower Wheel Size (Dia x W), in. [mm]		11 x 10 [279 x 254]							
Blower motor type/speeds		Variable Speed ECM							
Blower motor output - hp [W]		1/2 [373]				1 [746]			
Filter Standard - 1" [51mm] MERV3 disposable, in. [mm]		20 x 24 [508 x 635]							
Electrical characteristics (60hz)		208/230 - 1ph							
Shipping weight - lbs. [kg]		215 [97.52]				220 [99.79]			
Operating weight - lbs. [kg]		195 [88.45]				200 [90.71]			

4/28/14

Air Handler Model Number (Hydronic)		NAH026	NAH036	NAH048	NAH060
<b>Hydronic Coil</b>	Air Coil Total Face Area, ft2 [m2]	6.94 [0.64]			
	Tube outside diameter - in. [mm]	3/8 [9.52]			
	Number of rows	3			
	Fins per inch	13			
	Water In connection - in. [mm] sweat	7/8 [22.22]			
	Water Out connection - in. [mm] sweat	7/8 [22.22]			
Nominal cooling capacity - tons [kW]		2.1 [7.59]	3 [10.55]	4 [14.06]	5 [17.58]
Condensate drain connection - (O.D.) in. [mm]		3/4 [19.05]			
Blower Wheel Size (Dia x W), in. [mm]		11 x 10 [279 x 254]			
Blower motor type/speeds		Variable Speed ECM			
Blower motor output - hp [W]		1/2 [373]	1 [746]		
Filter Standard - 1" [51mm] MERV3 disposable, in. [mm]		20 x 24 [508 x 635]			
Electrical characteristics (60hz)		208/230 - 1ph			
Shipping weight - lbs. [kg]		220 [99.79]			
Operating weight - lbs. [kg]		200 [90.71]			

**NOTE:** Water connection dimensions are O.D.

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**ENVISION AIR HANDLER**  
2-5 Tons



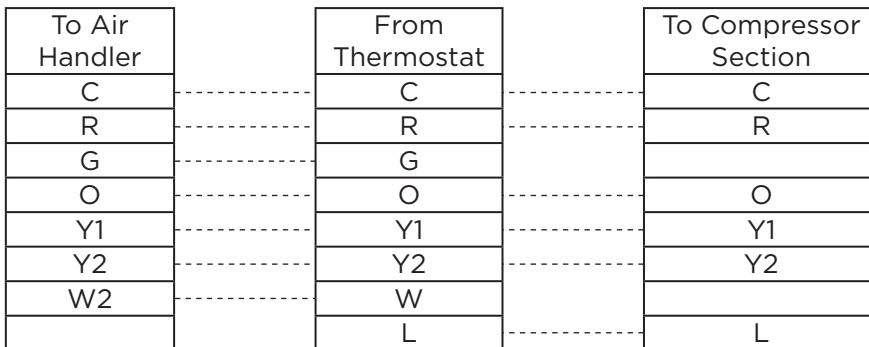
## Electrical Data

Model	Electric Heat Capacity		Supply Circuit	Aux. Heat Minimum CFM	Rated Voltage	Voltage Min/Max	Blower Motor FLA	Heater Ampacity		Total Unit FLA		Minimum Circuit Ampacity		Maximum Fuse/HACR			
	KW	BTUH						208v	240v	208v	240v	208v	240v	208v	240v	208v	240v
	240v	240v															
022	0	0	-		208-230/60/1	197/253	4.0	-	-	4.0	4.0	5.0	5.0	10	10		
	4.8	16,382	single	740			4.0	17.3	20.0	21.3	24.0	26.6	30.0	30	30		
026	0	0	-				4.0	-	-	4.0	4.0	5.0	5.0	10	10		
	4.8	16,382	single	740			4.0	17.3	20.0	21.3	24.0	26.6	30.0	30	30		
030	0	0	-				4.0	-	-	4.0	4.0	5.0	5.0	10	10		
	4.8	16,382	single	740			4.0	17.3	20.0	21.3	24.0	26.6	30.0	30	30		
	9.6	32,765	single	900			4.0	34.7	40.0	38.7	44.0	48.4	55.0	50	60		
036	0	0	-				4.0	-	-	4.0	4.0	5.0	5.0	10	10		
	4.8	16,382	single	740			4.0	17.3	20.0	21.3	24.0	26.6	30.0	30	30		
	9.6	32,765	single	900			4.0	34.7	40.0	38.7	44.0	48.4	55.0	50	60		
042	0	0	-				7.0	-	-	7.0	7.0	8.8	8.8	15	15		
	9.6	32,765	single	900			7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60		
	14.4	49,147	single	1,275			7.0	52.0	60.0	59.0	67.0	73.8	83.8	80	90		
	14.4	49,147	L1/L2 L3/L4				7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60		
048	0	0	-				-	17.3	20.0	17.3	20.0	21.6	25.0	25	25		
	9.6	32,765	single	900			7.0	-	-	7.0	7.0	8.8	8.8	15	15		
	14.4	49,147	single	1,275			7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60		
	14.4	49,147	L1/L2 L3/L4				7.0	52.0	60.0	59.0	67.0	73.8	83.8	80	90		
	14.4	49,147	L1/L2 L3/L4				7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60		
14.4	49,147	L1/L2 L3/L4	7.0				-	17.3	20.0	17.3	20.0	21.6	25.0	25	25		
060	0	0	-				7.0	-	-	7.0	7.0	8.8	8.8	15	15		
	9.6	32,765	single	900			7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60		
	14.4	49,147	single	1,275			7.0	52.0	60.0	59.0	67.0	73.8	83.8	80	90		
	14.4	49,147	L1/L2 L3/L4				7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60		
	14.4	49,147	L1/L2 L3/L4		7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60				
	19.2	65,530	single	1,700	-	17.3	20.0	17.3	20.0	21.6	25.0	25	25				
	19.2	65,530	L1/L2 L3/L4		7.0	69.3	80.0	76.3	87.0	95.4	108.8	100	110				
19.2	65,530	L1/L2 L3/L4	7.0		34.7	40.0	41.7	47.0	52.1	58.8	60	60					
					-	34.7	40.0	34.7	40.0	43.4	50.0	50	50				

7/11/08

Rated Voltage of 208/230/60/1  
HACR circuit breaker in USA only

### Low Voltage Point to Point Wiring



Air Handler transformer must be 75VA.

5/29/08

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Engineer: \_\_\_\_\_

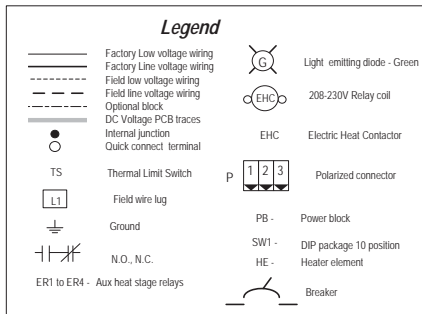
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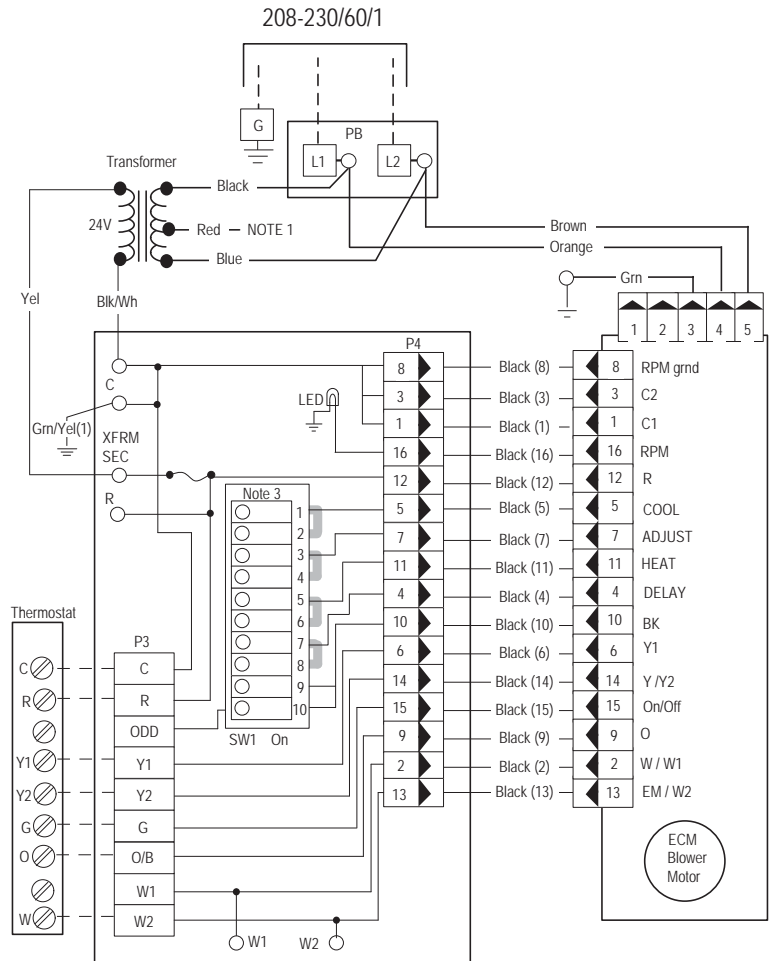
# Wiring Schematics

Air Handler Wiring Schematic - 208-230/60/1

97P787-02



- Notes:**
- 1 - To operate in 208V mode replace the blue transformer wire connected to PB-L2 with red transformer wire.
  - 2 - Jumper wires are Factory Installed, and are needed for electric heat operation.
  - 3 - Dip switches are used to select the air flow.
  - 4 - Use manufacturer's part number 19P592-01 (jumper bar assembly) when single source power is required.
  - 5 - Low voltage wiring CLASS 2.



## Air Handler No Electric Heat

**Dual Power Supply Connections**

If two separate circuits are used to supply power to the auxiliary heat kit, the Installer will need to verify that each leg of the auxiliary heat circuit breakers are wired from the power supply correctly in order for the electric heat kit to operate properly. This can be done by measuring the supply side voltage of the auxiliary heat circuit breakers. Put a voltmeter on the L2 side of Circuit Breaker One and on the L2 side of Circuit Breaker Two. The voltmeter should read approximately 0 volts. If the meter reads high voltage, the auxiliary heat breakers need to be rewired so that breakers in the auxiliary heat kit match the wiring of the Disconnect Panel breakers. Meaning, L1 and L2 from one breaker in the disconnect panel must connect to L1 and L2 at one of the auxiliary heat circuit breakers and L1 and L2 from the other breaker in the disconnect panel must connect to L1 and L2 of the other auxiliary heat circuit breaker, making sure that the L1 and L2 from each disconnect breaker matches the L1 and L2 at each of the auxiliary heat breakers.

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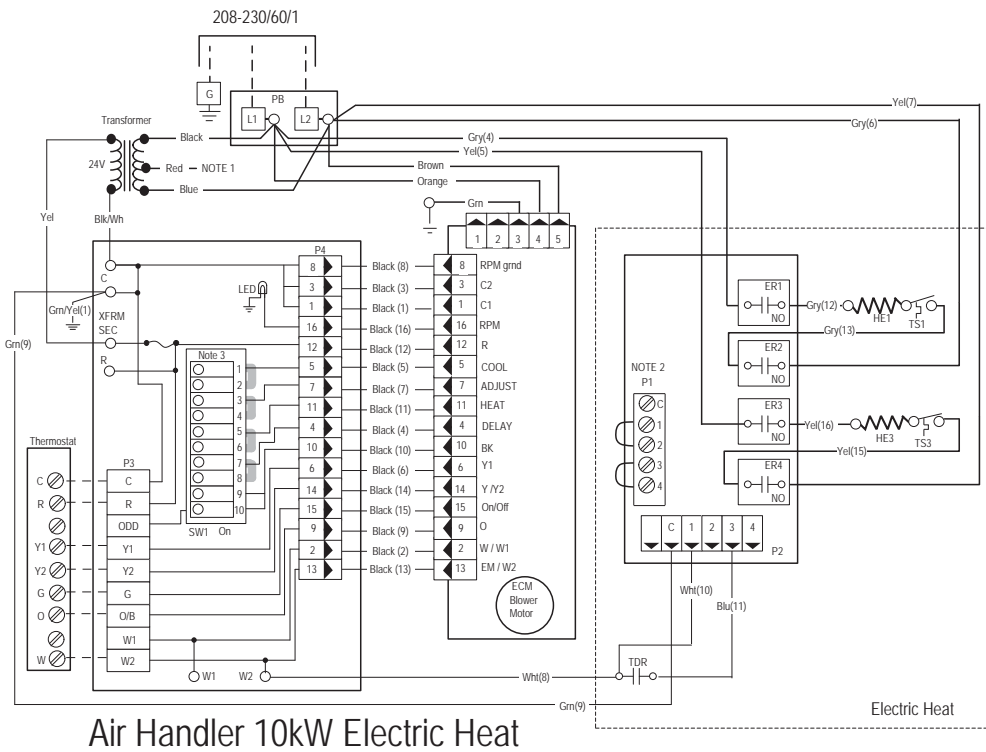
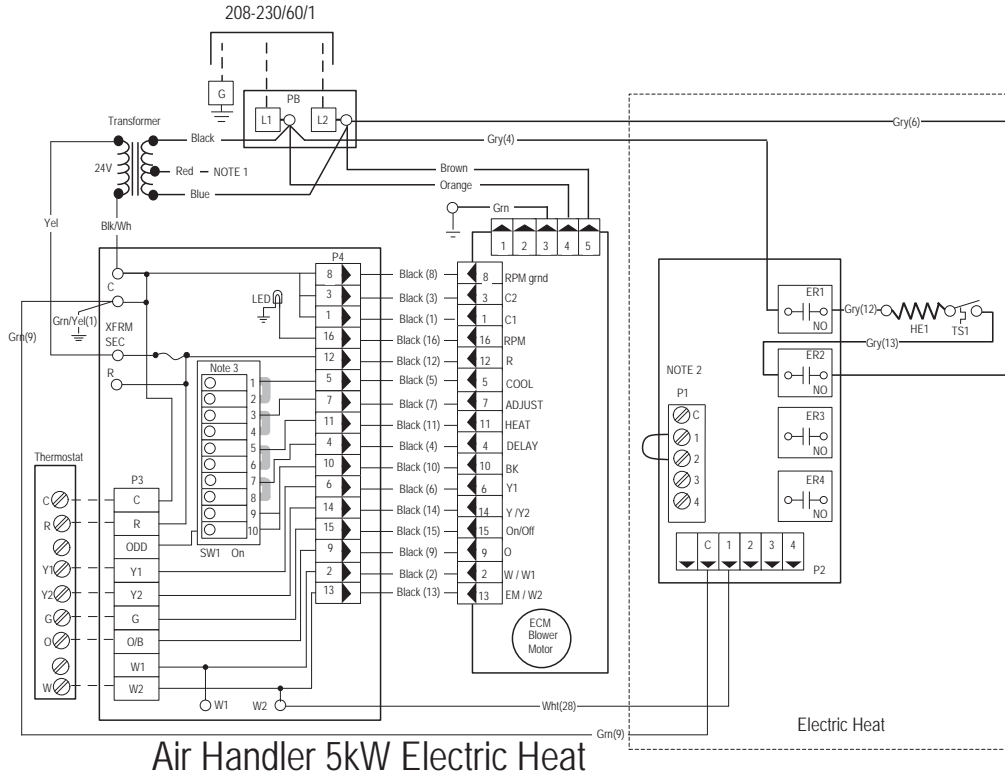
Engineer: \_\_\_\_\_

Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

# ENVISION AIR HANDLER 2-5 Tons



## Wiring Schematics cont.



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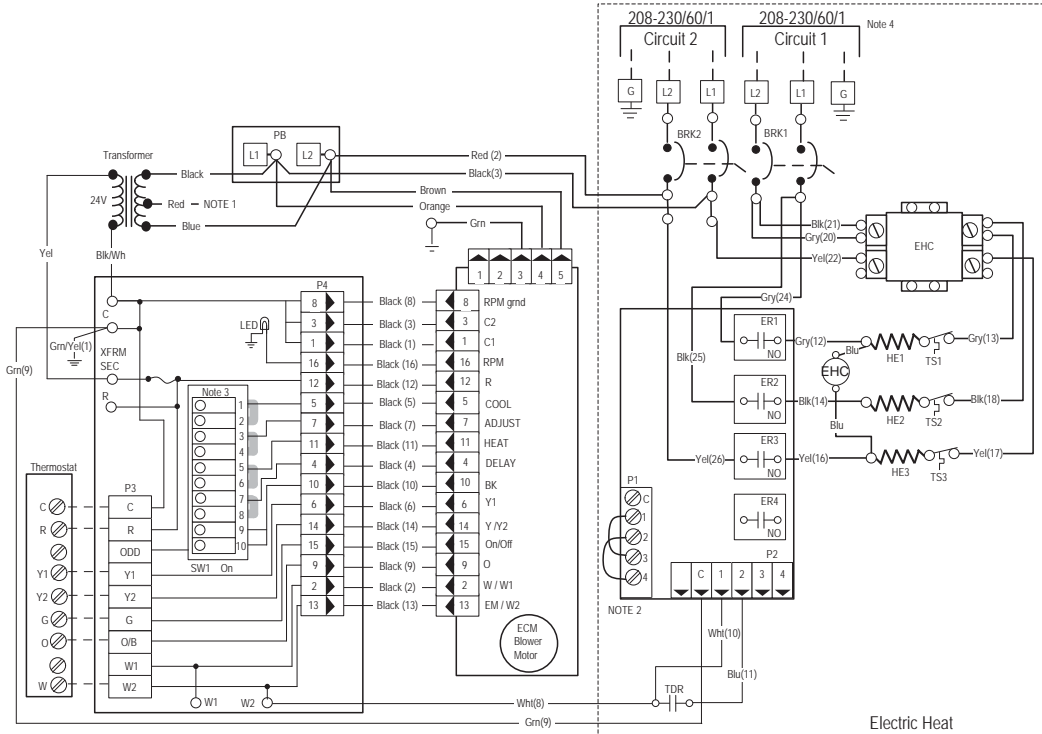
Engineer: \_\_\_\_\_

Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

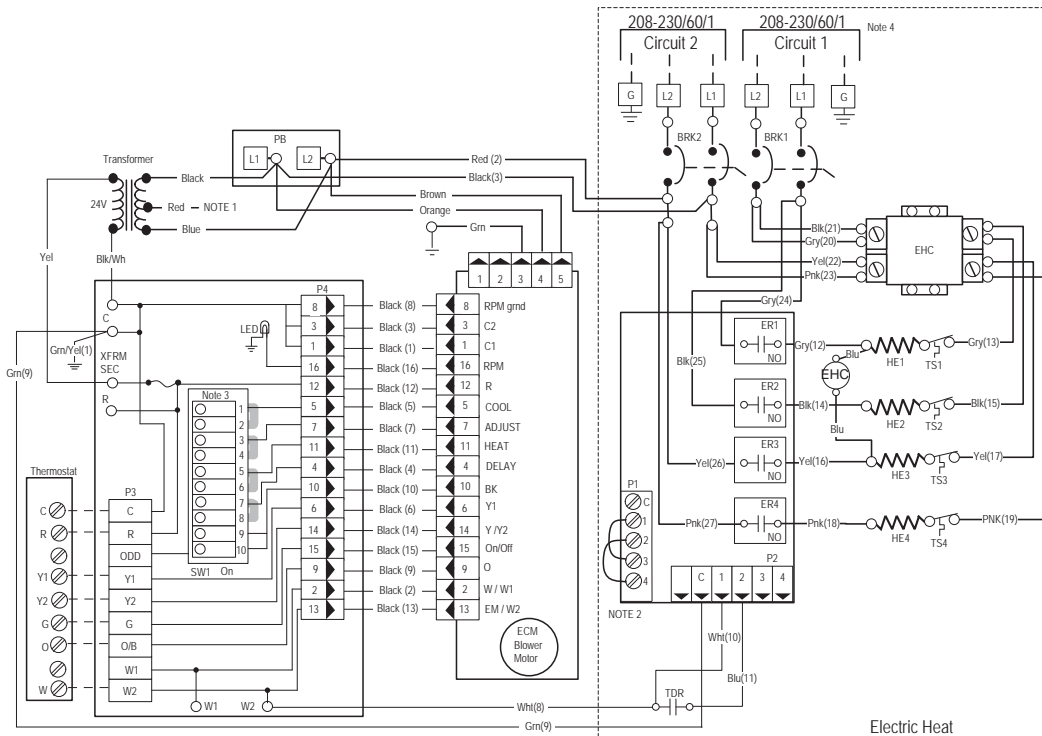
# ENVISION AIR HANDLER 2-5 Tons



## Wiring Schematics cont.



Air Handler w/ 15kW Electric Heat



Air Handler w/ 20kW Electric Heat

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# Engineering Guide Specifications

### General

The air handler shall provide vertical upflow, downflow, or horizontal configurations in one package. Units shall be listed by a nationally recognized safety-testing laboratory or agency, such as Underwriter’s Laboratory (UL) or Environmental Testing Laboratories (Intertek-ETL). The air handler units shall be designed and AHRI performance listed to operate with the 5 Series geothermal split condensing units as provided by WaterFurnace, International of Fort Wayne, Indiana. Each unit shall be pallet mounted and shipped using dense cardboard corners/top and stretch wrap for easy shipping damage inspection.

### Casing and Cabinet

The cabinet shall be fabricated from heavy-gauge galvanized steel and polyester powder coat paint to withstand 1000 hours of salt spray testing. The interior shall be insulated with 1/2 in. thick, multi-density, cleanable aluminum foil coated glass fiber with edges sealed or tucked under flanges to prevent the introduction of glass fibers into the discharge air. One large blower compartment access panel shall be provided and shall be removable with supply and return ductwork in place. The internal components layout shall provide for major service with the unit in-place for restricted access installations. The blower assembly access shall be slide-out serviceable via a ‘works-in-a-drawer’ design. The cabinet shall be convertible to horizontal or downflow applications by reconfiguring the cabinet using only a nut driver. The unit shall be ‘zero clearance’ approved on any of its surfaces. The cabinet shall be divided into two cubes to facilitate easy transport up attic ladders when needed. Standard-size MERV 3 1 in. filters shall be provided with each unit.

### Refrigeration Circuit

All units shall provide a fin tube air-to-refrigerant heat exchanger of the “A” coil design. The finned tube coil shall be sized for low-face velocity and constructed of lanced aluminum fins bonded to rifled copper tubes in a staggered pattern. The coil shall include an integral corrosion resistant e-coated galvanized drain pan.

The thermal expansion valve shall be factory installed and provide proper superheat over the entire liquid temperature range with minimal “hunting.” The valve shall operate in the cooling mode through the use of an internal check valve.

### Blower Motor and Assembly

The blower shall be an oversized direct drive centrifugal type with a dynamically balanced wheel. The housing and wheel shall be designed for quiet low outlet velocity operation and of galvanized or galvalume steel construction. Tight blower housing geometry shall not be permitted. The blower housing shall be removable from the unit without disconnecting the supply air ductwork for servicing of the blower motor through a ‘works-in-a-drawer’ design. The high efficiency blower motor shall be a variable speed ECM type. The blower motor shall be isolated from the housing by rubber grommets. The motor shall be permanently lubricated ball bearings and have thermal overload protection.

### Electrical

A solid state electronic control module shall be provided for the control of the blower and each stage of electric heat. Single or dual circuit line voltage terminal blocks shall be provided for the air handler power supply. Fuse protection shall be provided for the 75 VA control transformer. Units shall have knockouts for entrance of the low and line voltage wiring. The blower motor shall incorporate a harness plug-connection for easy removal. An integral circuit breaker shall be provided on all units employing 15 or 20kW electric heat. The control shall maintain the blower operation 30 seconds after the compressor or electric heat have shut off to improve efficiency.

### Piping

Refrigerant connections shall be made using sweat copper joints. The condensate connections shall be a 3/4 in. O.D. tube.

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 Engineer: \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

# Revision Guide

Pages:	Description:	Date:	By:
11-14	Updated Wiring Schematics	01 April 2015	MA
6-9, 13	Updated Hydronic Data	15 Aug 2014	MA
3,5,7,11	Updated Drain Pan	20 May 2014	DS/MA
All	Updated Dimensional Data for New Vertical Condensate Drain	02 May 2014	DS
All	Updated Nomenclature For New ECM Motor	20 Feb 2013	DS
14	Added Revision Guide	20 Feb 2013	DS

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