NAH Series

Hydronic Air Handler

NAH Series Hydronic Air Handler Specification Catalog

ENERGY STAR

AHRI CERTIFIED™ www.ahridirectory.org
Water Source HP
ANSI/AHRI/ASHRAE/ISO13256-1

C ETL LISTED US
Intertek

SC1028HG1 05/17

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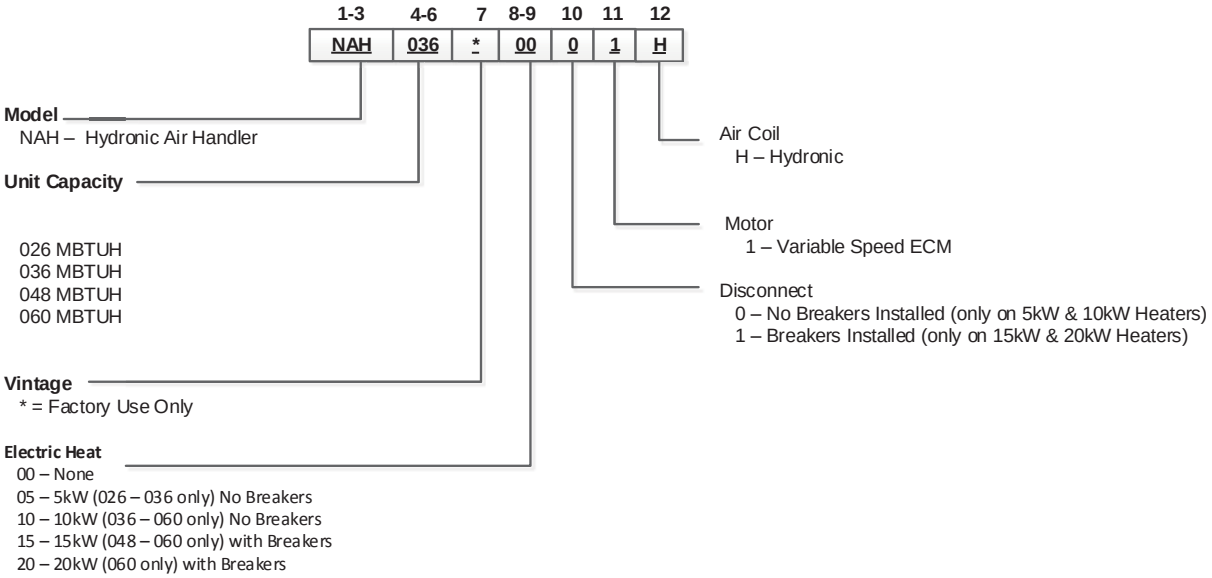
Model Nomenclature



Note: Kit NAHBC must be ordered to field convert NAH048-060 to bottom flow air discharge if air handler is to be used for cooling.

Physical Data

Air Handler Model Number (Hydronic)		NAH026	NAH036	NAH048	NAH060
Hydronic Coil	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]			

8/15/2014

NOTE: Water connection dimensions are O.D.

Design Features and Benefits

Easy to access control panel

Slide out blower assembly

Field switchable, four position design (Horizontal Left/Right, Vertical & Bottomflow

Narrow design for attic access
Width - 21″ [53.3 cm]
Height - 57.3″ [145.5 cm]
Depth - 26.1″ [66.3 cm]

1″ Filter Rack

Factory installed Internal Electric Heat with circuit breakers on 15 kW and 20 kW models

Variable speed ECM blower motor

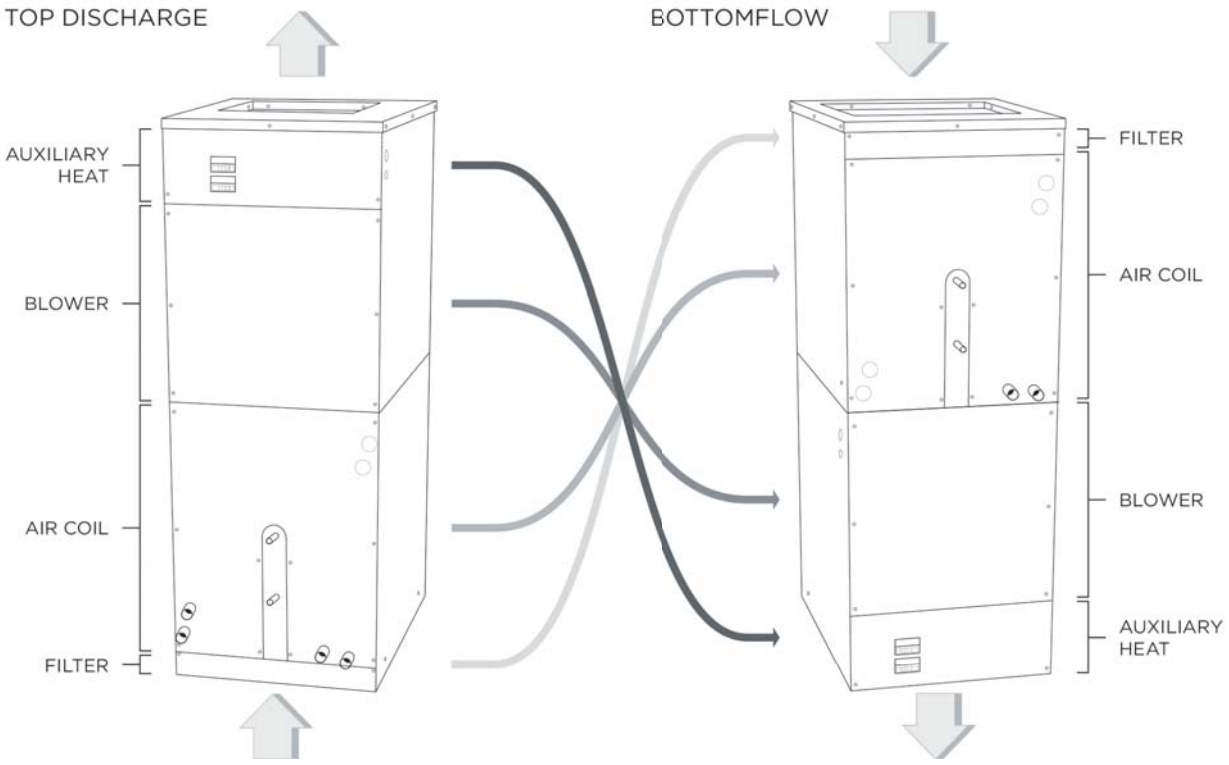
Foil lined, cleanable insulation

Electro-coated air coil

Hydronic “A” coil

Corrosion resistant coated galvanized steel drain pan

Ease of Conversion



Design Features and Benefits cont.

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. Electro-coated for added protection.

Cabinet

Constructed of heavy gauge environmentally-responsible galvanized steel for maximum corrosion resistance. All units are painted with a powder coat finish. All interior surfaces are lined with 1/2″ thick, foil lined acoustic type fiber insulation, applied in a manner that prevents the introduction of glass fibers into the air stream. Multiple knockouts in various sizes facilitate power and low voltage wiring. Multiple access panels for ease of service.

Controls

ECM interface board allows for blower speed selection and thermostat inputs.

Auxiliary/Emergency Heat

Optional factory installed electric heat.

Installation Ease

Cabinets are shipped in one piece but can be separated into two pieces for ease of installation in tight spaces.

Auxiliary/ Emergency Electric Heat

Electric heat packages can be factory or field installed. For field installed electric heat the Auxiliary Heat Compatibility table below shows the available heater packages for the air handler.

Configurations

Cabinets are factory configured for upflow and horizontal left hand air discharge installation but can be easily configured for horizontal right hand or bottomflow air discharge.

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.

Electrical Disconnect

Factory installed circuit breaker on 15 kW/20 kW heaters.

Hydronic Connections

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

Auxiliary Heat Compatibility

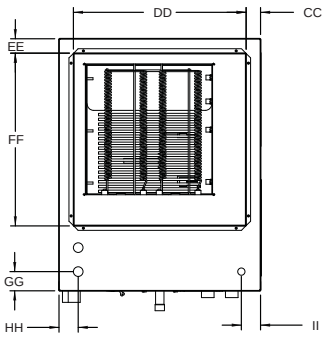
Model	kW	Stages	Min CFM	Air Handler Compatibility			
				026	036	048	060
19P578-01A	5	1	740	●	●		
19P578-02A	10	2	900		●	●	●
19P578-03A	15	2	1275			●	●
19P578-04A	20	2	1700				●

08/05/2017

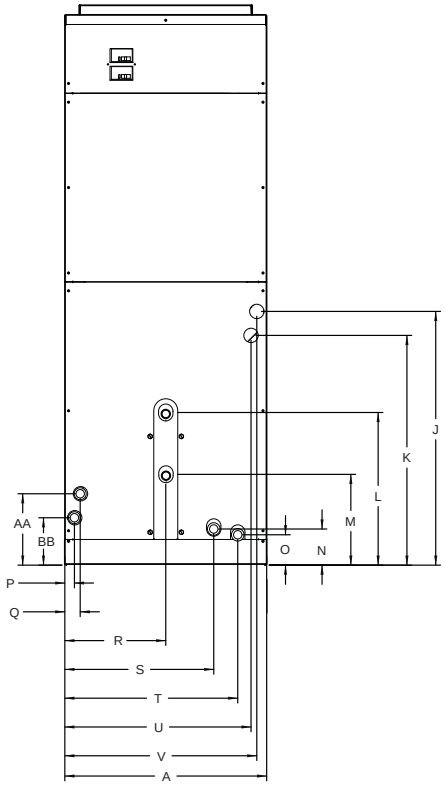
Dimensional Data - Hydronic Air Handler

Top Flow/Horizontal Unit Configuration

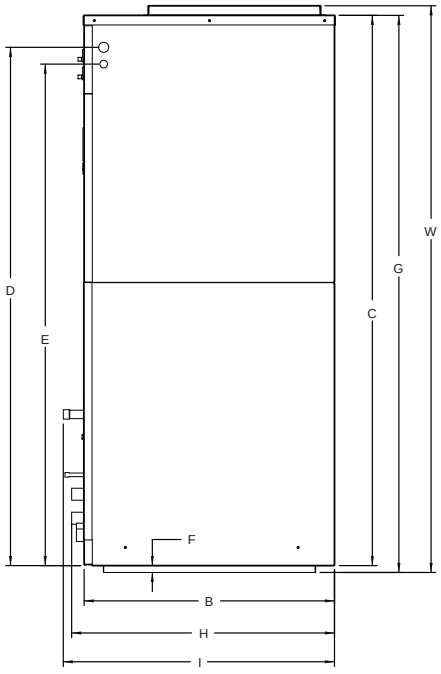
TOP VIEW



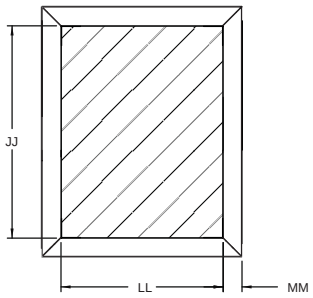
FRONT VIEW



RIGHT SIDE VIEW



BOTTOM VIEW



Topflow/ Horizontal Configuration		Overall Cabinet			D	E	F						Water Connections						
		A Width	B Depth	C Height	3/4" cond Power Supply	1/2" cond Low Voltage	Return Air Duct Flange	G	H	I	J	K	L Water Out	M Water In	N	O	P	Q	R	S
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

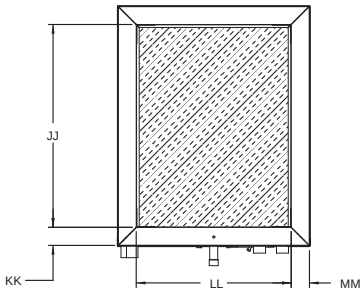
Rev: 8/15/14

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

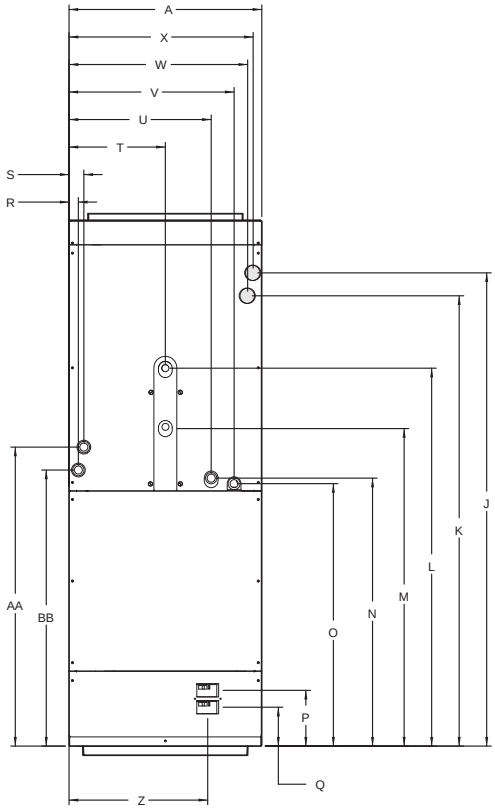
Dimensional Data - Hydronic Air Handler

Bottom Flow Unit Configuration

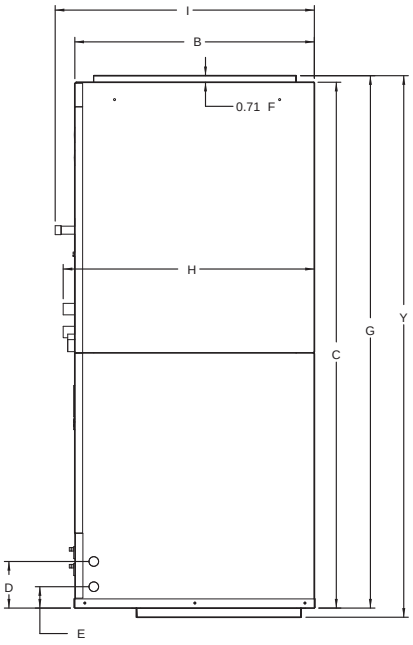
TOP VIEW



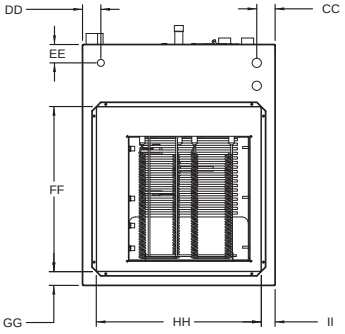
FRONT VIEW



RIGHT SIDE VIEW



BOTTOM VIEW



Bottomflow Configuration		Overall Cabinet			D	E	F						Water Connections						
		A Width	B Depth	C Height	3/4" cond Low Voltage	1" cond Power Supply	Return Air Duct Flange	G	H	I	J	K	L Water Out	M Water In	N	O	P	Q	R
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

											CC	DD	EE							
S	T	U	V	W	X	Y	Z	AA	BB	1" cond Power Supply	1/2" cond Low Voltage			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	2.0	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

Discharge flange is field installed and extends 1" (25.4 mm) from cabinet

Rev: 8/15/14

Electrical Data

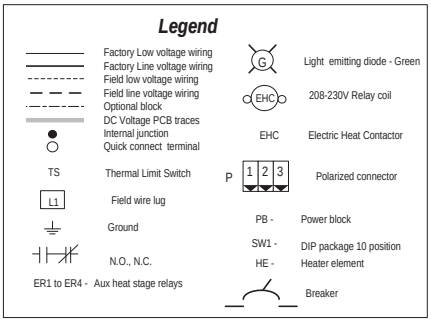
Model	Electric Heat Capacity		Supply Circuit	Aux. Heat Minimum CFM	Rated Voltage	Voltage Min/ Max	Blower Motor FLA	Heater Ampacity		Total Unit FLA		Minimum Circuit Ampacity		Maximum Fuse/ HACR	
	KW	BTUH													
	240v	240v						208v	240v	208v	240v	208v	240v	208v	240v
026	0	0	-		208-230/60/1	197/253	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
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
048	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				7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60
			L3/L4				-	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				7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60
			L3/L4				-	17.3	20.0	17.3	20.0	21.6	25.0	25	25
	19.2	65,530	single	1,700			7.0	69.3	80.0	76.3	87.0	95.4	108.8	100	110
	19.2	65,530	L1/L2				7.0	34.7	40.0	41.7	47.0	52.1	58.8	60	60
			L3/L4				-	34.7	40.0	34.7	40.0	43.4	50.0	50	50

5/08/2017

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

Wiring Schematics

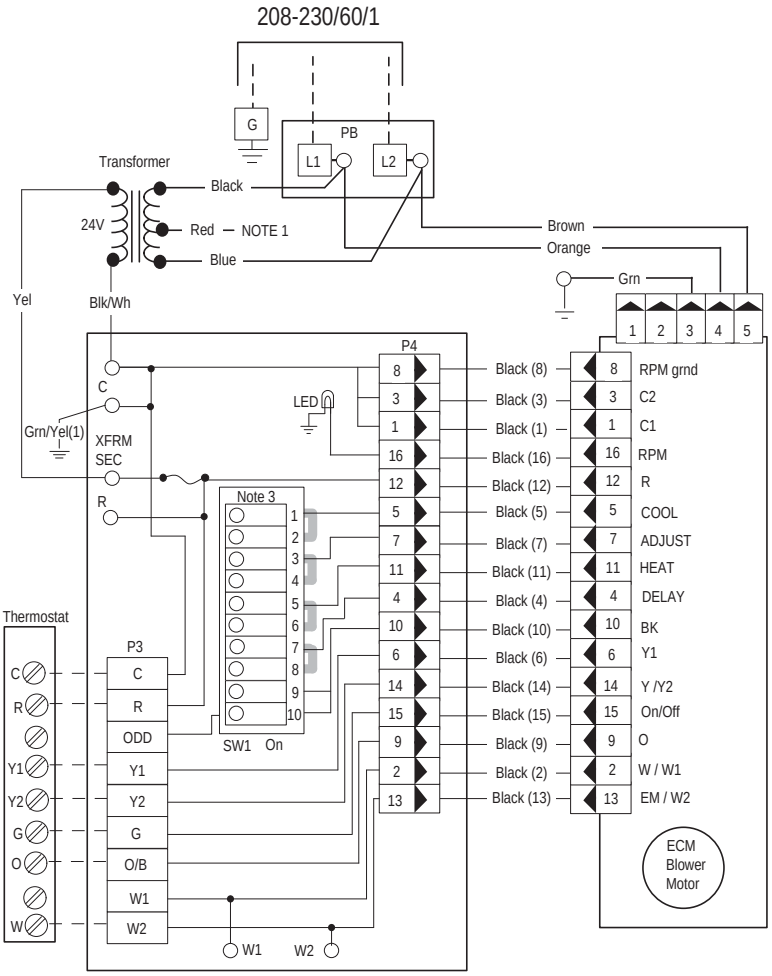
Air Handler Wiring Schematic - 208-230/60/1 97P787-02



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.

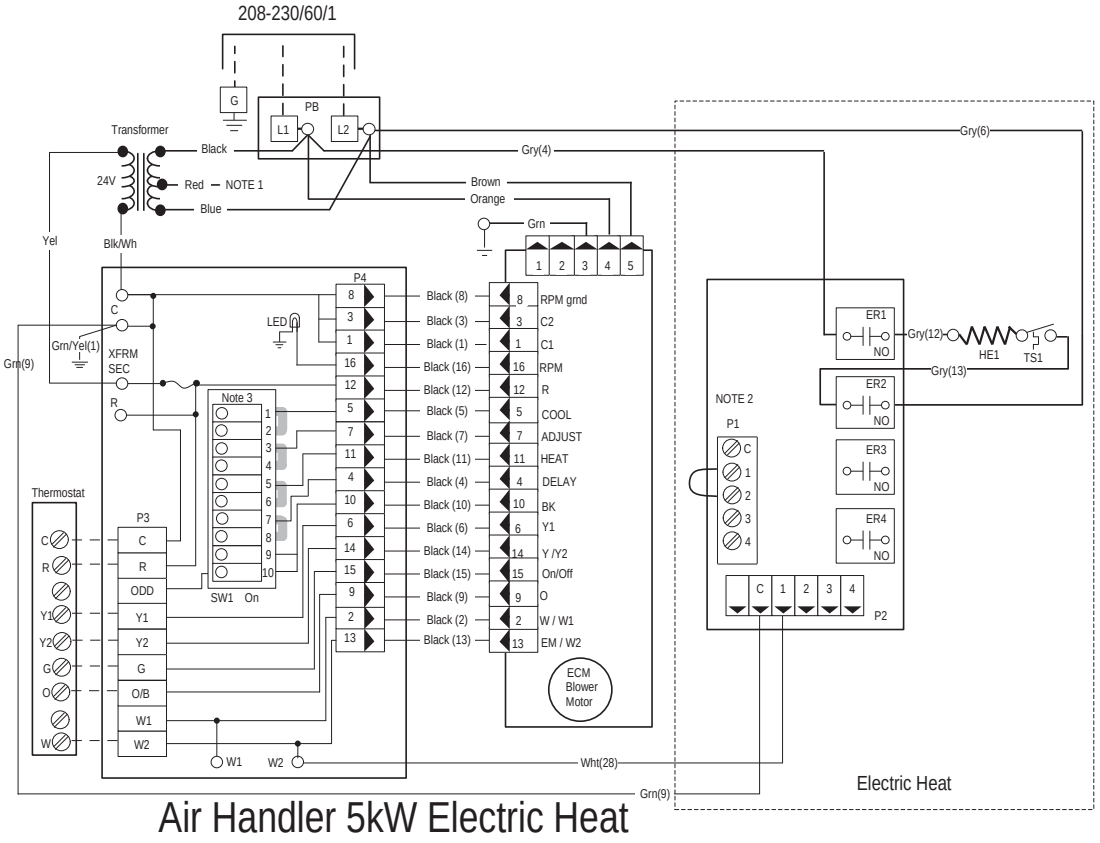
Dual Power Supply Connections

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.

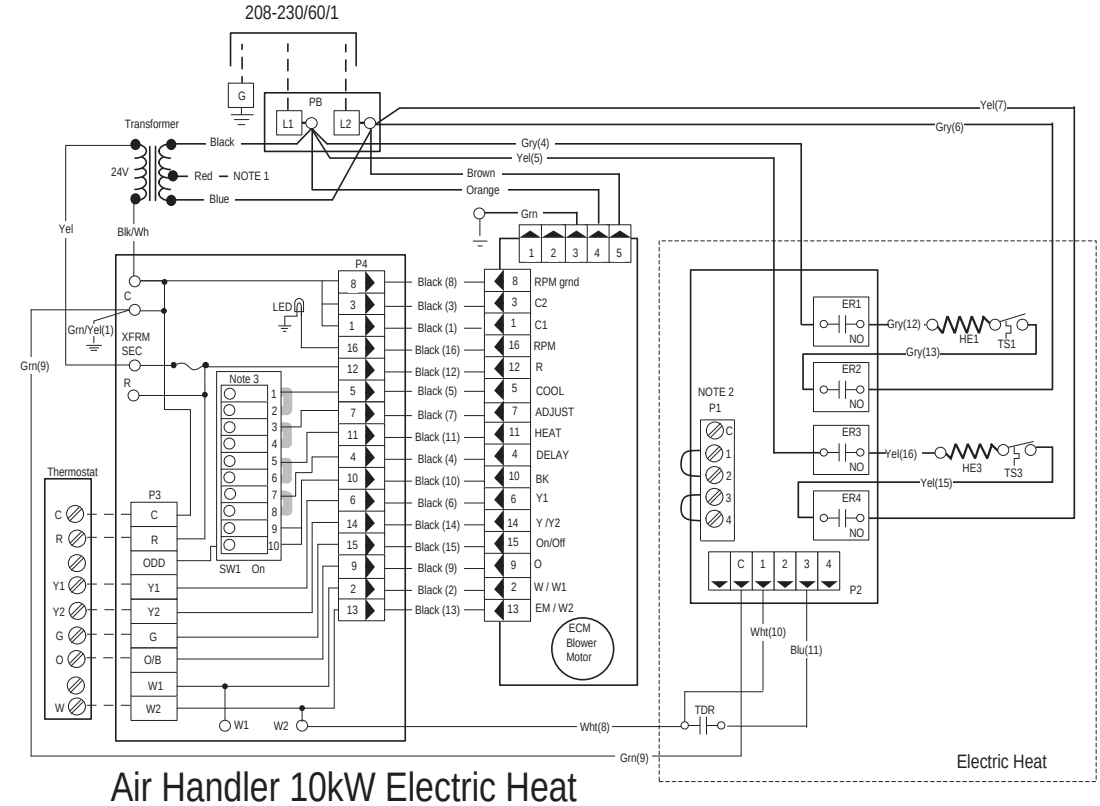


Air Handler No Electric Heat

Wiring Schematics cont.

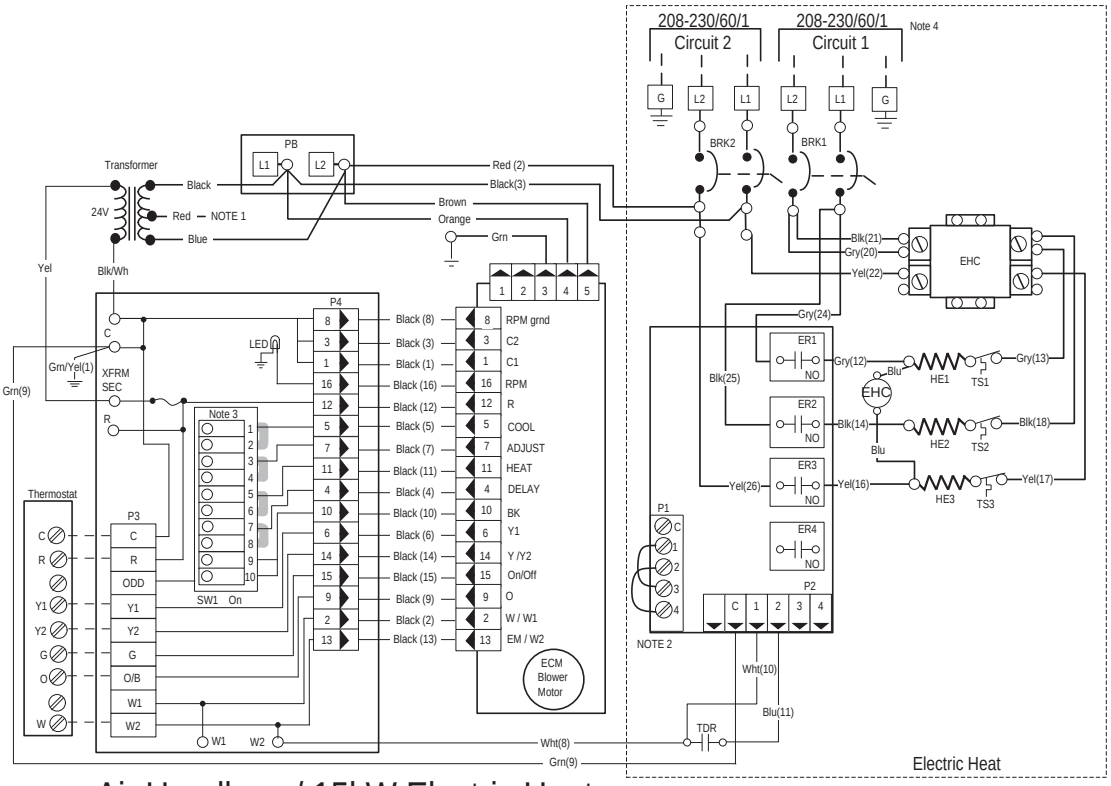


Air Handler 5kW Electric Heat

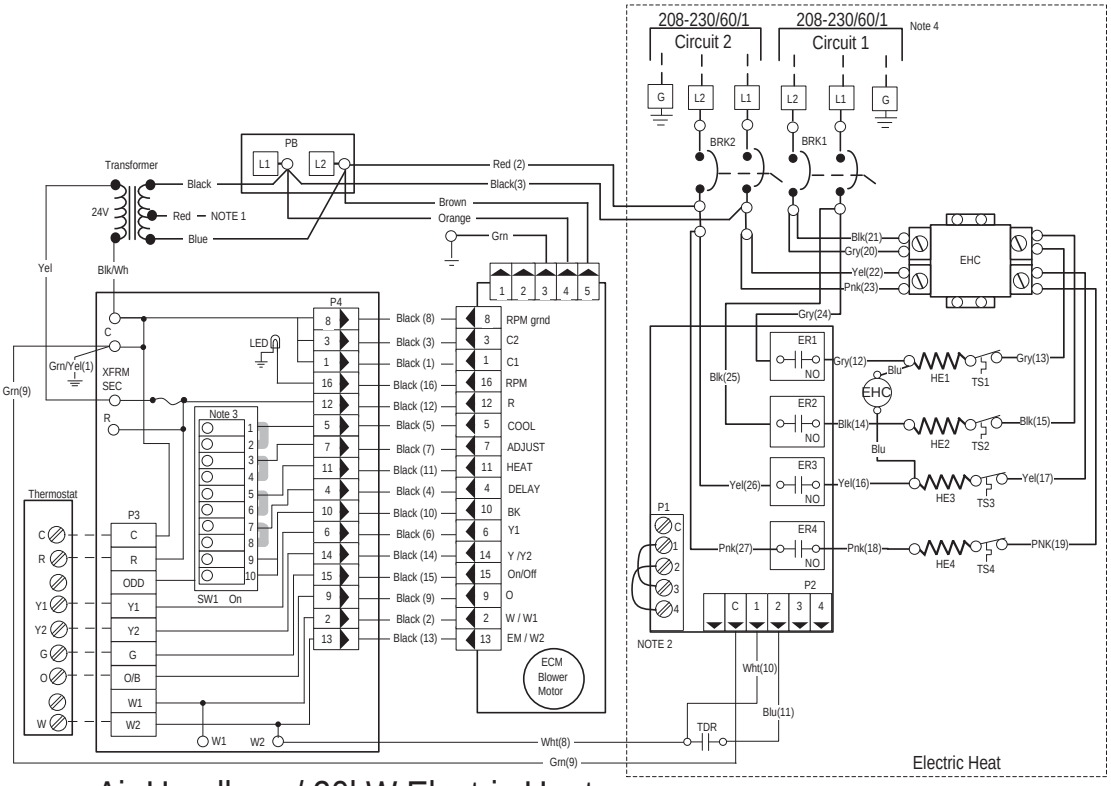


Air Handler 10kW Electric Heat

Wiring Schematics cont.



Air Handler w/ 15kW Electric Heat



Air Handler w/ 20kW Electric Heat

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	
026	0.50	1/2	On	On	1050	800	525	Off	850	700	525	On	On	1150
	0.50	1/2	**Off**	**On**	**925**	**725**	**475**	Off	760	620	475	**Off**	**On**	**950**
	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
036	0.50	1/2	On	On	1300	1025	760	Off	1105	871	760	On	On	1300
	0.50	1/2	**Off**	**On**	**1225**	**950**	**685**	Off	1041	808	685	**Off**	**On**	**1250**
	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
048	0.75	1	On	On	1700	1300	975	Off	1400	1080	975	On	On	1700
	0.75	1	**Off**	**On**	**1625**	**1240**	**875**	Off	1350	1025	875	**Off**	**On**	**1550**
	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	**Off**	**On**	**1760**	**1625**	**1050**	Off	1460	1350	1050	**Off**	**On**	**1760**
	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

05/09/2017

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

	DIPS	Switch Description
Air Handler DIP Switches	1	Used to set normal CFM
	2	
	3	Not used
	4	
	5	Used to set aux./emergency heat CFM
	6	
	7	Not used
	8	
	9	Used to set dehumidification CFM
	10	Not used

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

Hydronic Coil Performance

026-036 Heating/Cooling

026 Hydronic Heating Capacity Tables

CFM	Flow gpm	100°F EWT			WPD		110°F EWT			WPD		120°F EWT			WPD		130°F EWT			WPD	
		HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT
575	3.0	15.5	0.09	95.0	0.4	0.9	20.9	0.09	103.6	0.4	0.9	26.2	0.09	112.2	0.4	0.9	31.4	0.09	120.6	0.4	0.9
	4.5	16.9	0.09	97.1	0.8	1.8	22.5	0.09	106.2	0.8	1.8	28.1	0.09	115.2	0.8	1.8	33.5	0.09	123.9	0.8	1.8
	6.0	18.2	0.09	99.3	1.2	2.8	24.1	0.09	108.7	1.2	2.8	29.9	0.09	118.2	1.2	2.8	35.5	0.09	127.2	1.2	2.8
740	3.0	17.1	0.13	91.3	0.4	0.9	22.9	0.13	98.6	0.4	0.9	28.7	0.13	105.9	0.4	0.9	34.5	0.13	113.1	0.4	0.9
	4.5	18.7	0.13	93.4	0.8	1.8	24.9	0.13	101.2	0.8	1.8	31.2	0.13	109.0	0.8	1.8	37.2	0.13	116.5	0.8	1.8
	6.0	20.3	0.13	95.4	1.2	2.8	27.0	0.13	103.8	1.2	2.8	33.7	0.13	112.1	1.2	2.8	39.9	0.13	119.9	1.2	2.8
925	3.0	18.6	0.15	88.6	0.4	0.9	24.9	0.15	94.9	0.4	0.9	31.2	0.15	101.2	0.4	0.9	37.5	0.15	107.5	0.4	0.9
	4.5	20.5	0.15	90.5	0.8	1.8	27.4	0.15	97.4	0.8	1.8	34.3	0.15	104.3	0.8	1.8	40.9	0.15	110.9	0.8	1.8
	6.0	22.4	0.15	92.4	1.2	2.8	29.9	0.15	99.9	1.2	2.8	37.4	0.15	107.4	1.2	2.8	44.3	0.15	114.3	1.2	2.8

026 Hydronic Cooling Capacity Tables

CFM	Flow gpm	40°F EWT					WPD		45°F EWT					WPD		50°F EWT					WPD		55°F EWT					WPD	
		TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT
575	3.0	24.0	16.8	0.70	0.09	52.9	0.5	1.2	20.0	15.2	0.76	0.09	55.5	0.5	1.2	16.0	13.6	0.85	0.09	58.1	0.5	1.2	12.4	11.5	0.93	0.09	61.5	0.5	1.2
	4.5	27.5	18.3	0.66	0.09	50.6	0.9	2.1	22.9	16.5	0.72	0.09	53.5	0.9	2.1	18.3	14.8	0.81	0.09	56.2	0.9	2.1	14.3	12.7	0.88	0.09	59.6	0.9	2.1
	6.0	31.0	19.7	0.64	0.09	48.3	1.4	3.2	25.8	17.7	0.69	0.09	51.4	1.4	3.2	20.6	15.8	0.77	0.09	54.6	1.4	3.2	16.2	13.8	0.85	0.09	57.8	1.4	3.2
740	3.0	25.2	18.4	0.73	0.13	57.0	0.5	1.2	21.3	16.7	0.78	0.13	59.2	0.5	1.2	17.4	14.9	0.86	0.13	61.4	0.5	1.2	13.8	13.0	0.94	0.13	63.7	0.5	1.2
	4.5	29.5	20.1	0.68	0.13	54.8	0.9	2.1	24.7	18.3	0.74	0.13	57.1	0.9	2.1	19.9	16.4	0.82	0.13	59.5	0.9	2.1	15.8	14.3	0.90	0.13	62.1	0.9	2.1
	6.0	33.9	21.9	0.65	0.13	52.7	1.4	3.2	28.2	19.9	0.71	0.13	55.1	1.4	3.2	22.5	17.9	0.80	0.13	57.6	1.4	3.2	17.8	15.6	0.87	0.13	60.5	1.4	3.2
925	3.0	26.4	20.0	0.76	0.15	60.0	0.5	1.2	22.6	18.2	0.81	0.15	61.8	0.5	1.2	18.7	16.3	0.87	0.15	63.7	0.5	1.2	15.2	14.5	0.95	0.15	65.5	0.5	1.2
	4.5	31.6	22.0	0.70	0.15	58.0	0.9	2.1	26.6	20.0	0.75	0.15	60.0	0.9	2.1	21.7	18.0	0.83	0.15	62.0	0.9	2.1	17.3	15.9	0.92	0.15	64.1	0.9	2.1
	6.0	36.7	24.0	0.65	0.15	56.0	1.4	3.2	30.7	21.8	0.71	0.15	58.1	1.4	3.2	24.6	19.7	0.80	0.15	60.3	1.4	3.2	19.4	17.3	0.89	0.15	62.7	1.4	3.2

036 Hydronic Heating Capacity Tables

CFM	Flow gpm	100°F EWT			WPD		110°F EWT			WPD		120°F EWT			WPD		130°F EWT			WPD	
		HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT
800	4.5	19.8	0.13	92.9	0.8	1.8	26.3	0.13	100.4	0.8	1.8	32.8	0.13	108.0	0.8	1.8	39.3	0.13	115.5	0.8	1.8
	7.0	21.2	0.13	94.5	1.6	3.7	27.8	0.13	102.2	1.6	3.7	34.5	0.13	109.9	1.6	3.7	41.4	0.13	117.9	1.6	3.6
	9.0	22.5	0.13	96.0	2.4	5.5	29.3	0.13	104.0	2.4	5.5	36.2	0.13	111.9	2.4	5.5	43.5	0.13	120.3	2.3	5.3
1075	4.5	22.4	0.20	89.3	0.8	1.8	29.7	0.20	95.5	0.8	1.8	36.9	0.20	101.8	0.8	1.8	43.8	0.20	107.7	0.8	1.8
	7.0	24.1	0.20	90.8	1.6	3.7	31.7	0.20	97.3	1.6	3.7	39.2	0.20	103.8	1.6	3.7	46.9	0.20	110.4	1.6	3.6
	9.0	25.8	0.20	92.2	2.4	5.5	33.7	0.20	99.0	2.4	5.5	41.6	0.20	105.8	2.4	5.5	50.0	0.20	113.0	2.3	5.3
1225	4.5	25.0	0.32	88.9	0.8	1.8	33.0	0.32	94.9	0.8	1.8	41.0	0.32	101.0	0.8	1.8	48.3	0.32	106.5	0.8	1.8
	7.0	27.1	0.32	90.4	1.6	3.7	35.5	0.32	96.9	1.6	3.7	44.0	0.32	103.3	1.6	3.7	52.4	0.32	109.6	1.6	3.6
	9.0	29.1	0.32	92.0	2.4	5.5	38.1	0.32	98.8	2.4	5.5	47.0	0.32	105.5	2.4	5.5	56.4	0.32	112.6	2.3	5.3

036 Hydronic Cooling Capacity Tables

CFM	Flow gpm	40°F EWT					WPD		45°F EWT					WPD		50°F EWT					WPD		55°F EWT					WPD	
		TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT
800	4.5	30.5	21.2	0.70	0.13	55.5	0.9	2.1	25.3	19.3	0.77	0.13	57.6	0.9	2.1	20.0	17.5	0.87	0.13	59.8	0.9	2.1	16.5	15.3	0.92	0.13	62.3	0.9	2.1
	7.0	35.9	23.5	0.65	0.13	52.8	1.9	4.3	29.8	21.2	0.71	0.13	55.4	1.9	4.3	23.7	19.7	0.83	0.13	57.2	1.8	4.0	18.8	16.5	0.87	0.13	60.9	1.8	4.0
	9.0	41.3	25.8	0.62	0.13	50.1	2.8	6.5	34.4	23.1	0.67	0.13	53.2	2.8	6.5	27.5	20.4	0.74	0.13	56.3	2.6	6.0	21.1	17.6	0.83	0.13	59.6	2.6	6.0
1075	4.5	32.4	23.4	0.72	0.20	59.8	0.9	2.1	27.1	21.5	0.79	0.20	61.5	0.9	2.1	21.8	19.6	0.90	0.20	63.1	0.9	2.1	18.0	16.8	0.93	0.20	65.5	0.9	2.1
	7.0	39.1	26.0	0.67	0.20	57.6	1.9	4.3	32.5	23.7	0.73	0.20	59.6	1.9	4.3	25.9	21.9	0.84	0.20	61.2	1.8	4.0	20.7	18.4	0.89	0.20	64.2	1.8	4.0
	9.0	45.9	28.6	0.62	0.20	55.3	2.8	6.5	38.0	25.9	0.68	0.20	57.7	2.8	6.5	30.0	23.2	0.77	0.20	60.0	2.6	6.0	23.3	19.9	0.85	0.20	62.8	2.6	6.0
1225	4.5	34.3	25.7	0.75	0.32	60.6	0.9	2.1	28.8	23.6	0.82	0.32	62.2	0.9	2.1	23.4	21.5	0.92	0.32	63.8	0.9	2.1	19.5	18.3	0.94	0.32	66.2	0.9	2.1
	7.0	42.4	28.6	0.67	0.32	58.4	1.9	4.3	35.2	26.0	0.74	0.32	60.3	1.9	4.3	28.1	24.0	0.85	0.32	61.9	1.8	4.0	22.5	20.3	0.90	0.32	64.7	1.8	4.0
	9.0	50.5	31.5	0.62	0.32	56.2	2.8	6.5	41.7	28.5	0.68	0.32	58.5	2.8	6.5	32.8	25.5	0.78	0.32	60.7	2.6	6.0	25.5	22.3	0.87	0.32	63.2	2.6	6.0

Hydronic Coil Performance cont.

048-060 Heating/Cooling

048 Hydronic Heating Capacity Tables

CFM	Flow gpm	100°F EWT			WPD		110°F EWT			WPD		120°F EWT			WPD		130°F EWT			WPD	
		HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT
1000	6.0	24.0	0.20	92.2	1.2	2.8	31.5	0.20	99.2	1.2	2.8	39.0	0.20	106.1	1.2	2.8	46.4	0.20	113.0	1.2	2.8
	9.0	25.1	0.20	93.2	2.6	6.0	33.0	0.20	100.6	2.6	6.0	40.9	0.20	107.9	2.6	6.0	48.7	0.20	115.1	2.6	5.9
	12.0	26.2	0.20	94.3	4.0	9.2	34.6	0.20	102.0	4.0	9.2	42.9	0.20	109.7	4.0	9.2	51.0	0.20	117.2	3.9	9.0
1300	6.0	28.3	0.33	90.1	1.2	2.8	37.2	0.33	96.5	1.2	2.8	46.2	0.33	102.9	1.2	2.8	55.4	0.33	109.4	1.2	2.8
	9.0	30.2	0.33	91.5	2.6	6.0	39.7	0.33	98.2	2.6	6.0	49.1	0.33	105.0	2.6	6.0	58.7	0.33	111.8	2.6	5.9
	12.0	32.1	0.33	92.9	4.0	9.2	42.1	0.33	100.0	4.0	9.2	52.1	0.33	107.1	4.0	9.2	62.0	0.33	114.2	3.9	9.0
1625	6.0	32.5	0.42	88.5	1.2	2.8	43.0	0.42	94.5	1.2	2.8	53.4	0.42	100.4	1.2	2.8	64.3	0.42	106.6	1.2	2.8
	9.0	35.3	0.42	90.1	2.6	6.0	46.3	0.42	96.4	2.6	6.0	57.4	0.42	102.7	2.6	6.0	68.7	0.42	109.1	2.6	5.9
	12.0	38.0	0.42	91.7	4.0	9.2	49.7	0.42	98.3	4.0	9.2	61.3	0.42	104.9	4.0	9.2	73.0	0.42	111.6	3.9	9.0

048 Hydronic Cooling Capacity Tables

CFM	Flow gpm	40°F EWT					WPD		45°F EWT					WPD		50°F EWT					WPD		55°F EWT					WPD	
		TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT
1000	6.0	37.3	25.3	0.68	0.20	56.6	1.4	3.2	31.6	23.1	0.73	0.20	58.6	1.4	3.2	25.9	21.0	0.81	0.20	60.6	1.4	3.2	20.2	18.4	0.91	0.20	63.0	1.4	3.2
	9.0	43.6	28.0	0.64	0.20	54.0	3.0	6.9	36.6	25.5	0.70	0.20	56.4	3.0	6.8	29.4	23.0	0.78	0.20	58.7	2.9	6.7	22.4	19.6	0.88	0.20	61.8	2.9	6.6
	12.0	49.9	30.8	0.62	0.20	51.5	4.6	10.6	41.6	27.9	0.67	0.20	54.2	4.5	10.4	33.3	25.0	0.75	0.20	56.9	4.4	10.2	24.6	20.9	0.85	0.20	60.7	4.3	9.9
1300	6.0	40.5	29.2	0.72	0.33	59.2	1.4	3.2	34.6	26.6	0.77	0.33	61.1	1.4	3.2	28.8	23.9	0.83	0.33	63.0	1.4	3.2	22.7	21.1	0.93	0.33	65.0	1.4	3.2
	9.0	48.4	32.9	0.68	0.33	56.6	3.0	6.9	41.1	29.9	0.73	0.33	58.7	3.0	6.8	33.8	27.0	0.80	0.33	60.8	2.9	6.7	25.6	23.1	0.90	0.33	63.6	2.9	6.6
	12.0	56.4	36.6	0.65	0.33	53.9	4.6	10.6	47.5	33.2	0.70	0.33	56.4	4.5	10.4	38.7	29.8	0.77	0.33	58.8	4.4	10.2	28.4	25.1	0.88	0.33	62.1	4.3	9.9
1625	6.0	43.6	33.1	0.76	0.42	61.1	1.4	3.2	37.3	30.5	0.82	0.42	62.6	1.4	3.2	31.0	27.9	0.90	0.42	64.1	1.4	3.2	25.1	23.8	0.95	0.42	66.4	1.4	3.2
	9.0	53.3	37.8	0.71	0.42	58.5	3.0	6.9	45.0	34.2	0.76	0.42	60.5	3.0	6.8	36.7	30.6	0.84	0.42	62.5	2.9	6.7	28.7	26.6	0.92	0.42	64.9	2.9	6.6
	12.0	63.0	42.4	0.67	0.42	55.9	4.6	10.6	52.6	37.9	0.72	0.42	58.4	4.5	10.4	42.3	33.3	0.79	0.42	61.0	4.4	10.2	32.3	29.3	0.91	0.42	63.3	4.3	9.9

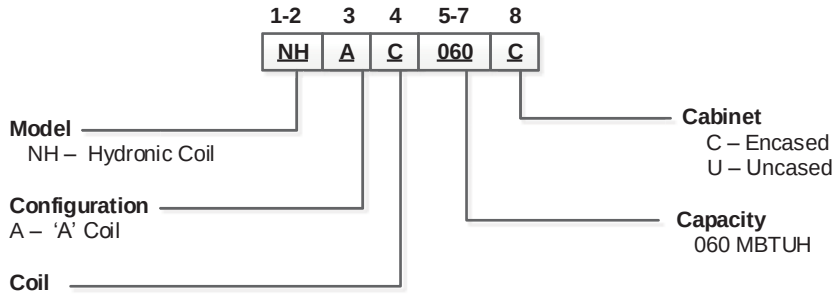
060 Hydronic Heating Capacity Tables

CFM	Flow gpm	100°F EWT			WPD		110°F EWT			WPD		120°F EWT			WPD		130°F EWT			WPD	
		HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT	HC kBtuh	Power kW	LAT	PSI	FT
1525	7.5	33.1	0.38	90.1	1.7	3.9	43.6	0.38	96.5	1.7	3.9	54.0	0.38	102.8	1.7	3.9	65.2	0.38	109.6	1.6	3.7
	11.0	34.9	0.38	91.2	3.9	8.9	46.0	0.38	97.9	3.9	8.9	57.0	0.38	104.6	3.8	8.8	69.0	0.38	111.9	3.7	8.5
	15.0	36.7	0.38	92.3	6.0	13.9	48.4	0.38	99.4	6.0	13.9	60.0	0.38	106.4	5.9	13.6	72.7	0.38	114.1	5.8	13.4
1680	7.5	35.4	0.48	89.5	1.7	3.9	46.6	0.48	95.7	1.7	3.9	57.7	0.48	101.8	1.7	3.9	69.4	0.48	108.2	1.6	3.7
	11.0	37.8	0.48	90.8	3.9	8.9	49.7	0.48	97.4	3.9	8.9	61.5	0.48	103.9	3.8	8.8	73.9	0.48	110.7	3.7	8.5
	15.0	40.2	0.48	92.2	6.0	13.9	52.8	0.48	99.1	6.0	13.9	65.3	0.48	106.0	5.9	13.6	78.5	0.48	113.3	5.8	13.4
1760	7.5	37.7	0.56	89.8	1.7	3.9	49.6	0.56	96.1	1.7	3.9	61.4	0.56	102.3	1.7	3.9	73.5	0.56	108.7	1.6	3.7
	11.0	40.7	0.56	91.4	3.9	8.9	53.4	0.56	98.1	3.9	8.9	66.0	0.56	104.7	3.8	8.8	78.9	0.56	111.5	3.7	8.5
	15.0	43.7	0.56	93.0	6.0	13.9	57.2	0.56	100.1	6.0	13.9	70.6	0.56	107.1	5.9	13.6	84.3	0.56	114.3	5.8	13.4

060 Hydronic Cooling Capacity Tables

CFM	Flow gpm	40°F EWT					WPD		45°F EWT					WPD		50°F EWT					WPD		55°F EWT					WPD	
		TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	LAT	PSI	FT
1525	7.5	49.2	35.7	0.73	0.38	58.3	2.0	4.7	40.9	31.8	0.78	0.38	60.7	2.0	4.7	32.6	28.0	0.86	0.38	63.0	2.0	4.7	27.2	24.7	0.91	0.38	65.0	1.9	4.4
	11.0	58.2	39.1	0.67	0.38	56.3	4.5	10.4	47.9	34.7	0.72	0.38	58.9	4.5	10.3	33.4	27.0	0.81	0.38	63.6	4.4	10.2	30.3	26.6	0.88	0.38	63.8	4.3	9.9
	15.0	67.3	42.4	0.63	0.38	54.2	7.0	16.1	55.0	37.6	0.68	0.38	57.2	6.9	15.9	42.6	32.8	0.77	0.38	60.1	6.8	15.7	33.3	28.5	0.86	0.38	62.7	6.7	15.5
1680	7.5	50.1	37.3	0.74	0.48	59.4	2.0	4.7	42.0	33.4	0.80	0.48	61.6	2.0	4.7	34.0	29.6	0.87	0.48	63.7	2.0	4.7	28.5	25.9	0.91	0.48	65.7	1.9	4.4
	11.0	59.9	41.3	0.69	0.48	57.2	4.5	10.4	49.5	36.7	0.74	0.48	59.8	4.5	10.3	38.3	31.4	0.82	0.48	62.7	4.4	10.2	31.5	28.2	0.89	0.48	64.5	4.3	9.9
	15.0	69.8	45.4	0.65	0.48	55.0	7.0	16.1	57.0	39.9	0.70	0.48	58.0	6.9	15.9	44.2	34.5	0.78	0.48	61.0	6.8	15.7	34.4	30.4	0.88	0.48	63.2	6.7	15.5
1760	7.5	51.0	38.9	0.76	0.56	59.5	2.0	4.7	43.4	35.2	0.81	0.56	61.5	2.0	4.7	35.8	31.5	0.88	0.56	63.4	2.0	4.7	29.8	27.1	0.91	0.56	65.8	1.9	4.4
	11.0	61.6	43.6	0.71	0.56	57.1	4.5	10.4	51.6	39.0	0.76	0.56	59.5	4.5	10.3	41.6	34.5	0.83	0.56	61.9	4.4	10.2	32.7	29.7	0.91	0.56	64.4	4.3	9.9
	15.0	72.3	48.3	0.67	0.56	54.6	7.0	16.1	59.8	42.8	0.72	0.56	57.5	6.9	15.9	47.4	37.4	0.79	0.56	60.3	6.8	15.7	35.6	32.3	0.91	0.56	63.0	6.7	15.5

Air Coil Nomenclature



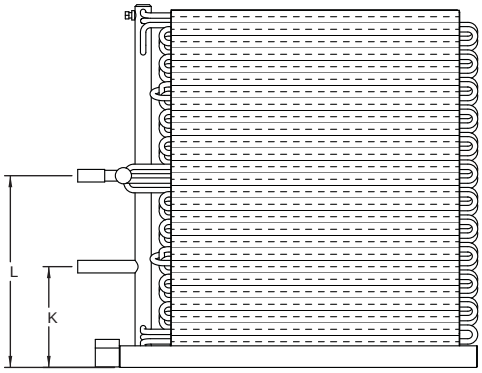
Coil Physical Characteristics

Air Coil Model Number (Hydronic)		NHAC060
Hydronic Coil	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]		5 [17.58]
Condensate drain connection - (O.D) in. [mm]		3/4 [19.05]

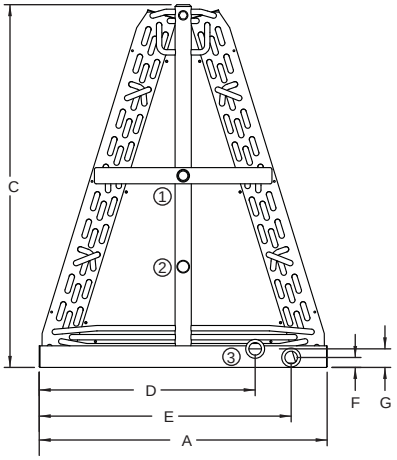
NOTE: Water connection dimensions are O.D.

Dimensional Data

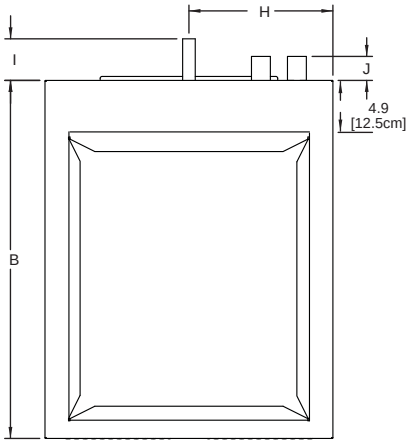
Hydronic Coil



RIGHT SIDE



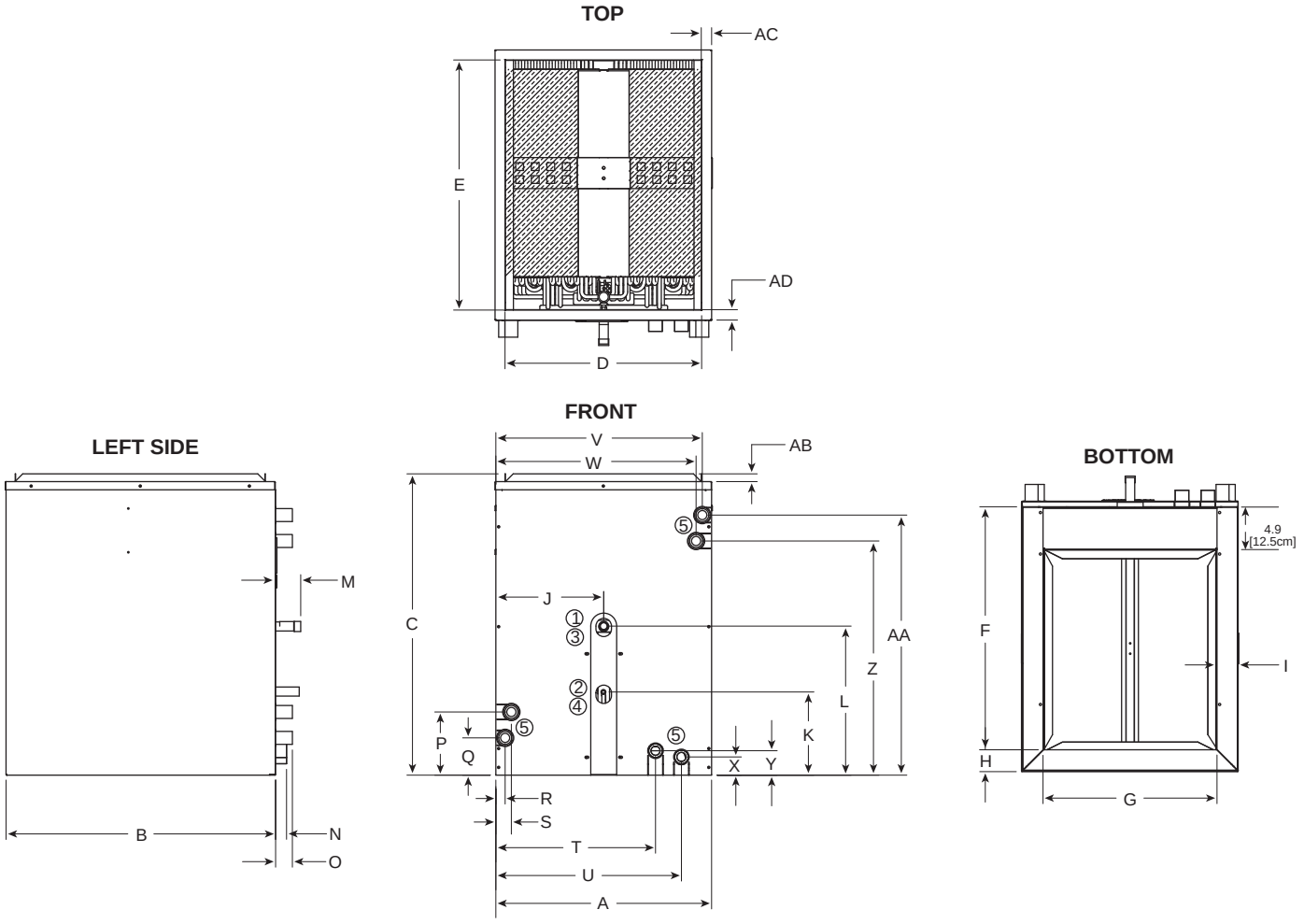
FRONT



BOTTOM

Uncased Models		Overall Dimensions			Connections			Condensate Connections					Hydronic Connections			
		A Width	B Depth	C Height	1 Water Sweat	2 Water Sweat	3 Condensate Tube	D	E	F	G	H	I	J	K	L
060	in.	20.0	24.9	25.2	7/8	7/8	3/4	15.0	17.5	0.7	1.3	10.0	2.9	1.7	7.0	13.3
	cm.	50.8	63.3	63.5	2.2	2.2	1.9	38.1	44.5	1.8	3.3	25.4	7.4	4.3	17.8	33.8

Dimensional Data - Hydronic Cased Coils



Encased Models		Overall Cabinet			Connections					Supply Connection		Inlet Connection			
		A Width	B Depth	C Height*	1 Suction	2 Liquid	3 Water	4 Water	5 Condensate	D Supply Width	E Supply Depth	F	G	H	I
					Sweat	Sweat	Sweat	Sweat	Tube						
Hydronic 060	in.	20.8	26.0	29.1	-	-	7/8	7/8	3/4	19.0	24.1	23.4	16.8	2.1	2.0
	cm.	52.8	66.0	73.9	-	-	2.2	2.2	1.9	48.3	61.2	59.4	42.7	5.3	5.1

Encased Models		Water Connections				Condensate Connections														Miscellaneous		
		J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
Hydronic 060	in.	10.4	8.0	14.4	2.4	1.1	1.6	6.1	3.6	0.9	1.5	15.4	17.9	19.9	19.3	1.8	2.4	22.6	25.1	0.8	1.0	1.0
	cm.	26.4	20.3	36.6	6.1	2.8	4.1	15.5	9.1	2.3	3.8	39.1	45.5	50.6	49.1	4.5	6.0	57.4	63.7	1.9	2.5	2.5

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). 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˝-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˝ filters shall be provided with each unit.

Hydronic Circuit

All units shall provide a fin tube air-to-hydronic heat exchanger of the "A" coil design. The finned tube e-coated 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 steel drain pan.

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 20 kW electric heat. The control shall maintain the blower operation 30 seconds after the cool, heat or electric heat have shut off to improve efficiency.

Piping

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

Revision Guide

Pages:	Description:	Date:	By:
All	Removed Refrigerant Coil Information	09 May 2017	MA
12-15	Updated Wiring Schematics	01 April 2015	MA
4-10, 17-21	Updated Hydronic Data	15 Aug 2014	MA
15-18	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
15-16	Added Additional Dimension on Return Side Opening on Hydronic & DX Coils	20 Feb 2013	DS
19	Added Revision Guide	20 Feb 2013	DS

Product:	**NAH Series Air Handler**
Type:	Hydronic
Size:	2 - 6 Tons
Document Type:	Specification Catalog
Part Number:	SC1028HG1
Release Date:	05/17