

INSTALLER'S GUIDE

18-GJ51D1-4

ALL phases of this installation must comply with
NATIONAL, STATE AND LOCAL CODES

Models:

BAYWVAA05SC1AA
BAYWVBB07SC1AA
BAYWVCC08SC1AA

Hydronic Coil Accessory with RS-485 Control

Fits Hyperion™ and ForeFront™ Family 7, 8 and
TAMG Air Handler models

IMPORTANT— This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

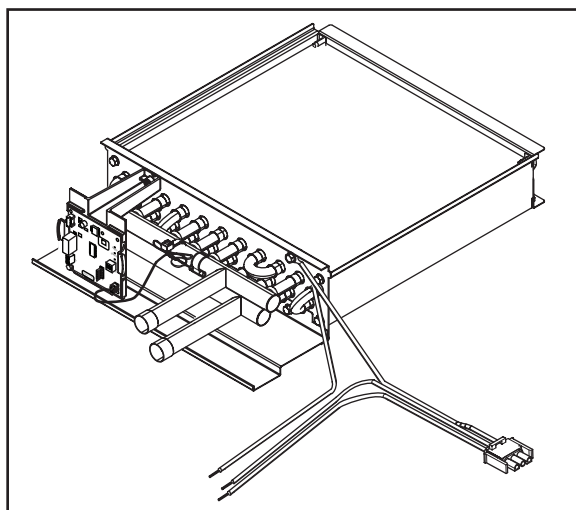


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Section 1. Safety Considerations

IMPORTANT: Read this manual carefully before attempting to install, operate, or perform maintenance on this hydronic coil. Installation, service, and maintenance should be performed by qualified technicians only.

NOTE: "Warnings" and "Cautions" appear at appropriate places in this manual. Read these carefully. Your personal safety and the proper operation of this heating product require that you follow them carefully. The manufacturer assumes no liability for installations or services performed by independent dealers.

Safety signal words are used to designate a degree or level of seriousness associated with a particular hazard. The signal words for safety markings are WARNING and CAUTION.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in property damage, death or serious personal injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It is also used to alert against unsafe practices and hazards involving only property damage.

1.1 WARNINGS

WARNING

THE INFORMATION IN THIS GUIDE IS FOR USE BY INDIVIDUALS HAVING ADEQUATE ELECTRICAL AND MECHANICAL BACKGROUND. ANY ATTEMPTS, BY UNQUALIFIED PERSONS, AT PLUMBING, INSTALLING OR REPAIRING A HYDRONIC SYSTEM OR CENTRAL AIR CONDITIONING PRODUCT COULD RESULT IN PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH. THE MANUFACTURER OR SELLER CANNOT BE RESPONSIBLE FOR THE INTERPRETATION OF THIS INFORMATION, NOR CAN IT ASSUME ANY LIABILITY IN CONNECTION WITH ITS USE.

WARNING

ELECTRICAL HAZARD!
DISCONNECT ALL ELECTRICAL POWER, INCLUDING REMOTE DISCONNECTS BEFORE INSTALLING OR SERVICING. FOLLOW PROPER LOCKOUT/TAGOUT PROCEDURES TO ENSURE THE POWER CAN NOT BE INADVERTENTLY ENERGIZED. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

Section 2. General Information

This accessory hydronic coil is designed to deliver primary or secondary heating capacity using a non-potable water source. Maximum entering water temperature is 180 °F.

WARNING

SAFETY HAZARD!

THIS HYDRONIC COIL MUST ONLY BE USED IN NON-POTABLE CLOSED WATER SYSTEMS. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

WARNING

HIGH PRESSURE HAZARD!

MAXIMUM ENTERING WATER TEMPERATURE IS 180°F. WATER TEMPERATURES EXCEEDING 180°F COULD CAUSE A HIGH PRESSURE BURST. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

WARNING

SCALD HAZARD!

THIS SYSTEM CONTAINS HOT WATER AND OPERATES UNDER PRESSURE. WATER TEMPERATURES ABOVE 125°F CAN INSTANTLY CAUSE SEVERE BURNS OR DEATH. USE CAUTION WHEN SERVICING THIS EQUIPMENT. ALLOW SUFFICIENT TIME FOR THE WATER TO COOL BEFORE OPENING THE SYSTEM DRAIN. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, PROPERTY DAMAGE, OR DEATH.

WARNING

LEAK HAZARD!

IF THE HYDRONIC COIL HAS A LEAK, USE CAUTION WHEN SERVICING THIS EQUIPMENT. THOROUGHLY WIPE OFF EXCESS WATER FROM ALL COMPONENTS AND ALLOW ADEQUATE TIME FOR THE COMPONENTS TO DRY COMPLETELY BEFORE SERVICING SYSTEM. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, PROPERTY DAMAGE, OR DEATH.

1.2 CAUTIONS

CAUTION

SAFETY HAZARD! Sharp Edge Hazard. Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing. Personal injury may result.

CAUTION

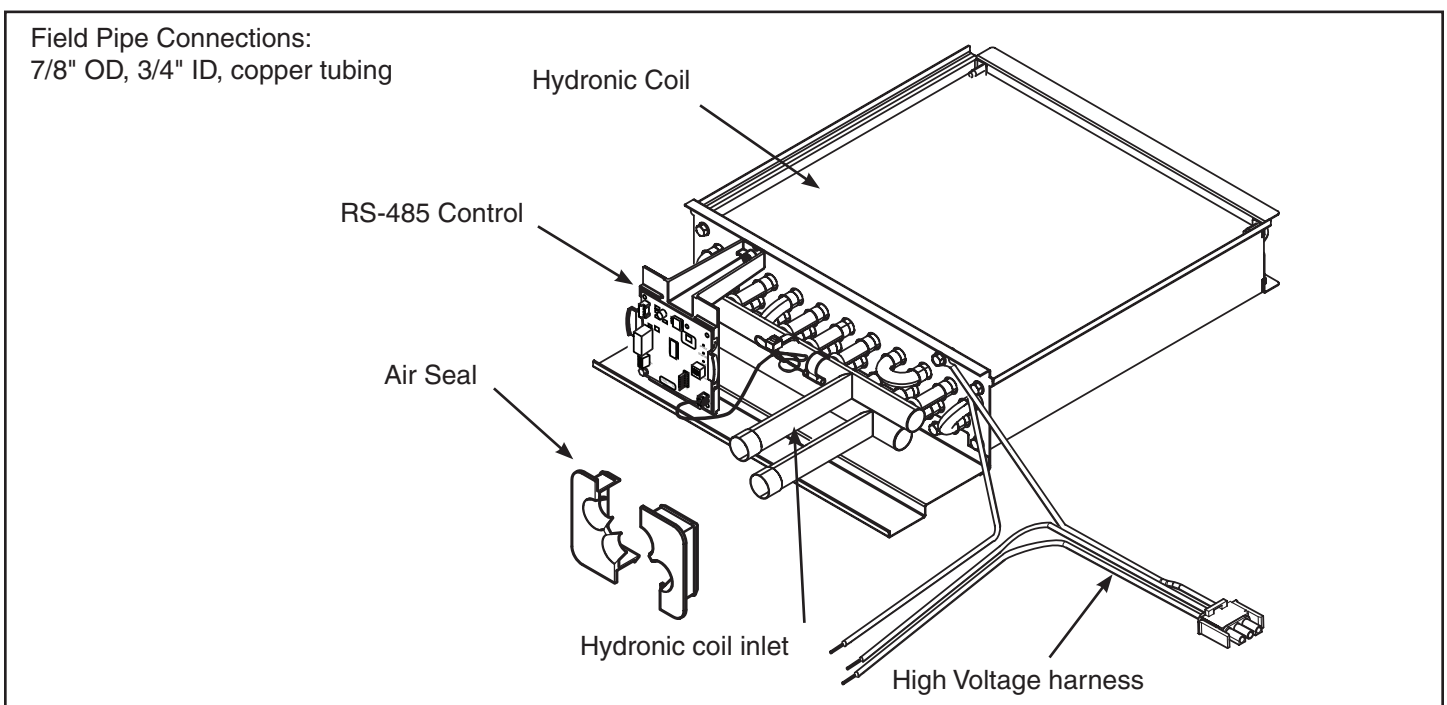
SAFETY HAZARD!

All joints must be leak free.

1. Check the hydronic coil nameplate to confirm that the selected hydronic coil is approved for use with the Air Handler.
2. Check the components received for damage. Report any defects or shortages to the transportation company immediately.

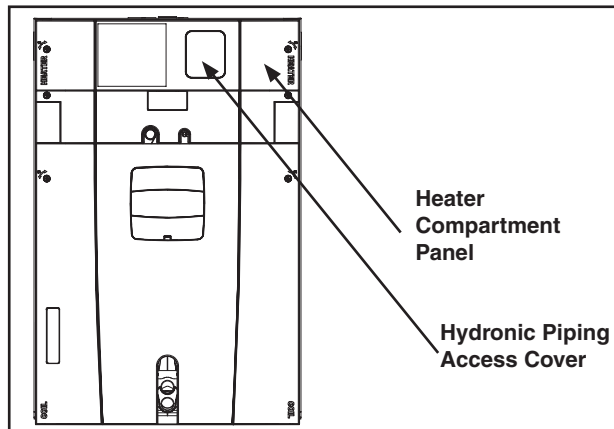
Water Coil Model Numbers																
Digit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sample Coil number		B	A	Y	W	V	B	B	0	7	S	C	1	A	A	A
Brand	B = Both Brands	B														
Product Type	AY = Accessory		A	Y												
Heat Type	E = Electric Heater															
	W = Hot Water Coil				W											
Product Tier	A = Air Handler Tier (2,4, and 5)					V										
	V = Air Handler Tier (7,8,and TAMG)															
	C = Compact (Single Cabinet)															
Size (Footprint)	A-D = Minimum Cabinet Width						B									
	A-D = Maximum Cabinet Width							B								
Electric Heat Input	Electric Heat - kW (05,08,10,15,20,25)															
Hydronic Heat Input	Hydronic Heat - 10,000 BTUH (05,07,08,10)								0	7						
Connection	BK = Breaker															
	SC = Sweat / Solder										S	C				
	LG = Lugs															
Power Supply	1 = 208-230/1/60												1			
	A = 200/1/50															
	3 = 208-230/3/60															
	9 = 115-1-60															
	0 = N/A															
Major Design Modification	Letter Sequence													A		
Minor Design Modification	Letter Sequence														A	
Unit Parts Identifier	Letter Sequence															A

Section 3. Hydronic Coil Assembly



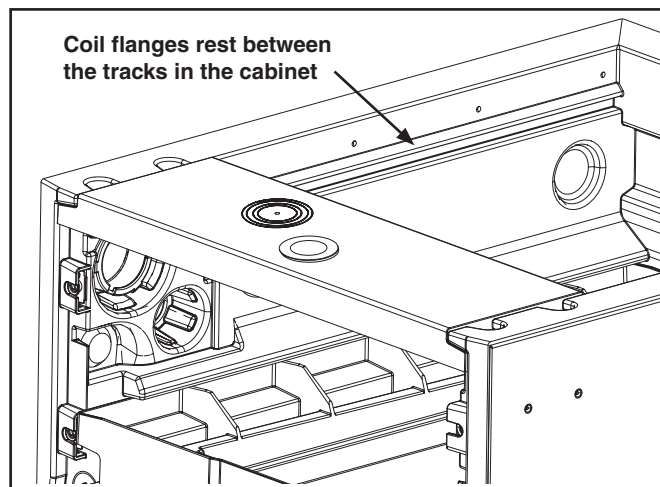
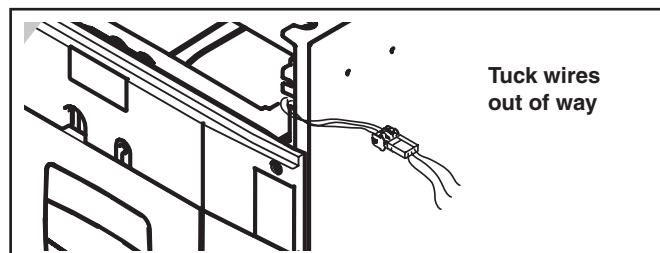
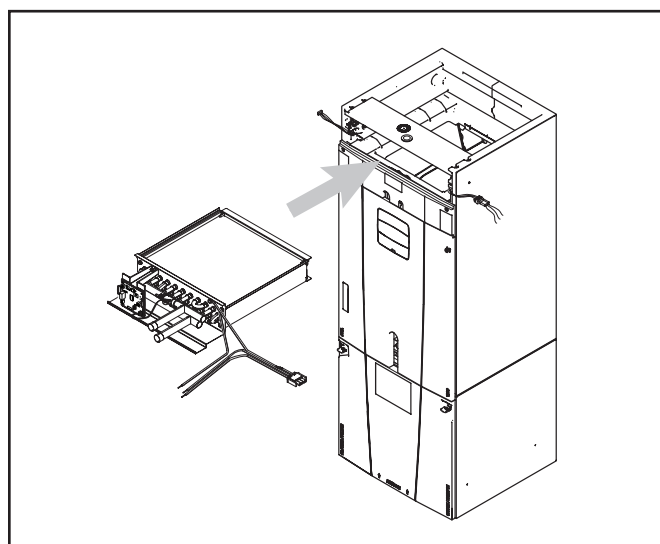
Section 4. Install Hydronic Coil

STEP 1 - Remove Heater Compartment Panel



STEP 2 - Insert hydronic coil assembly into heater compartment.

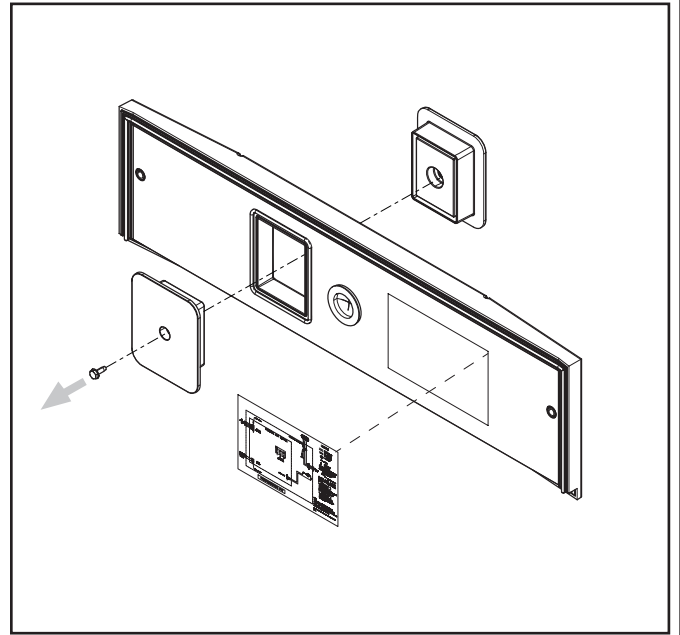
1. Tuck factory wiring out of the way and into the grooves provided in cabinet.
2. Align the rails of the coil with the tracks in the Air Handler cabinet and slide the hydronic coil into place.



Section 5. Piping

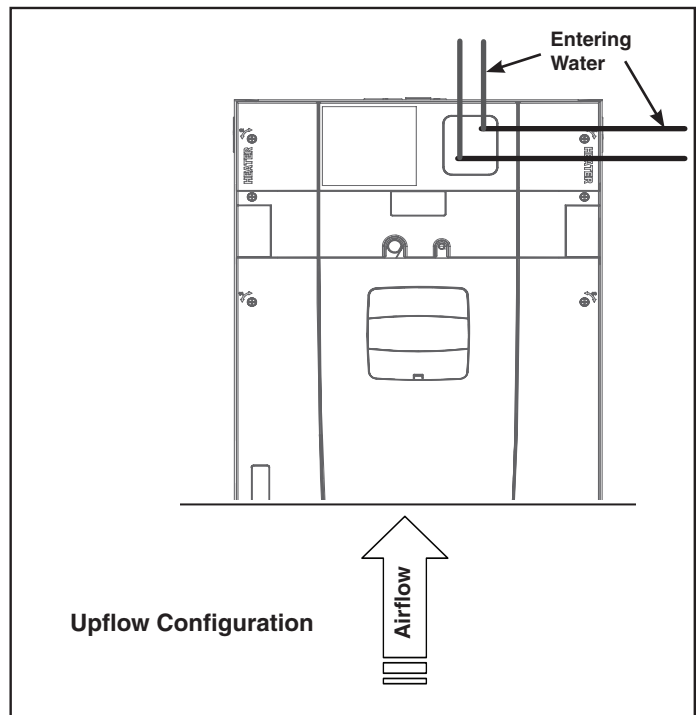
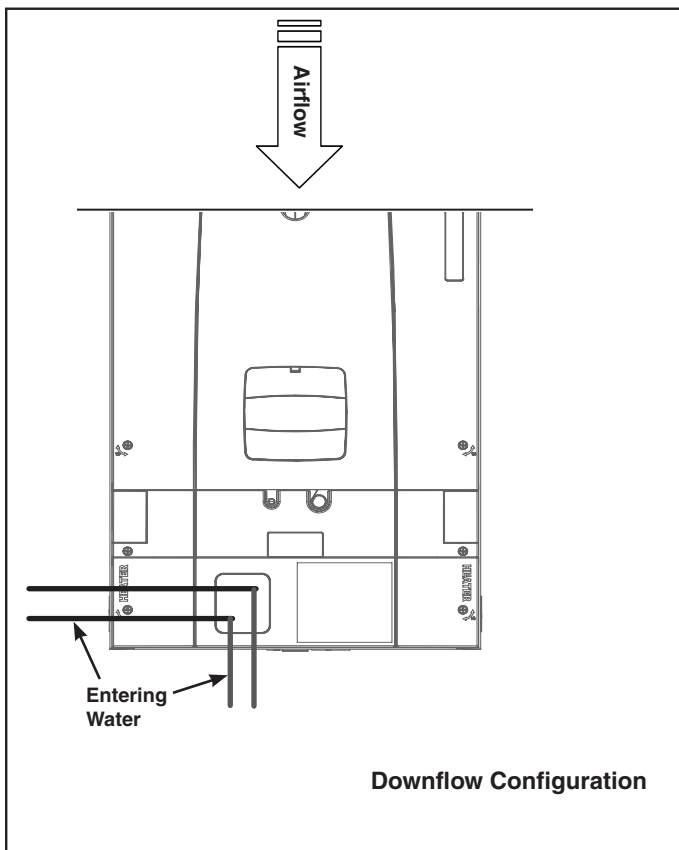
STEP 1 - Remove hydronic piping access cover from heater compartment panel and attach label.

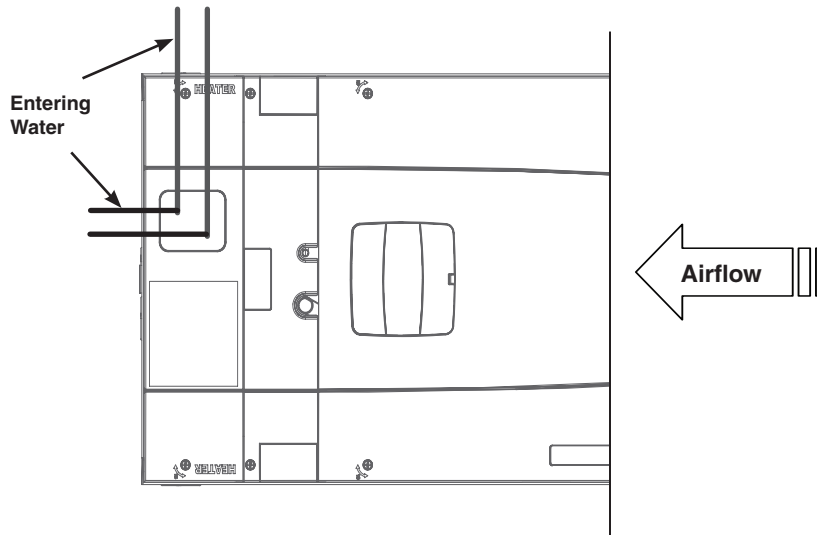
1. Remove 5/16 hex screw on back of cover.
2. Attach wiring diagram label to back of heater panel.



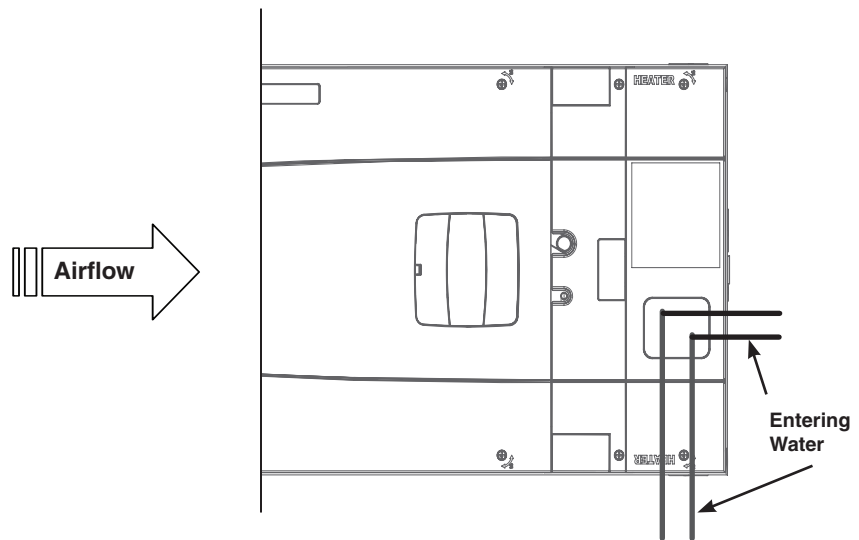
NOTE - The hydronic coil can be installed in upflow, downflow, or horizontal positions. The following illustrations show the recommended vertical and horizontal piping configurations. Piping must consist of two vertical pipes or two horizontal pipes.

NOTE - When piping the water lines, the entering water pipe will always be furthest from the blower.





Horizontal Left Configuration



Horizontal Right Configuration

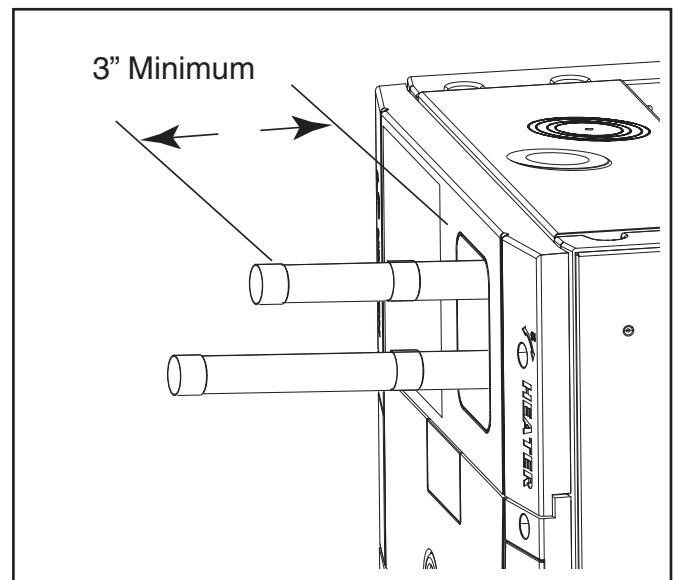
STEP 2 - Run piping.

1. Run field supplied hydronic pipes in parallel to one another. See the piping recommendations for the different Air Handler orientations. For each Air Handler orientation, the pair of pipes can be run either horizontal or vertical.

Note: Piping must allow for removal of heater compartment panel and not obstruct service access to hydronic coil.

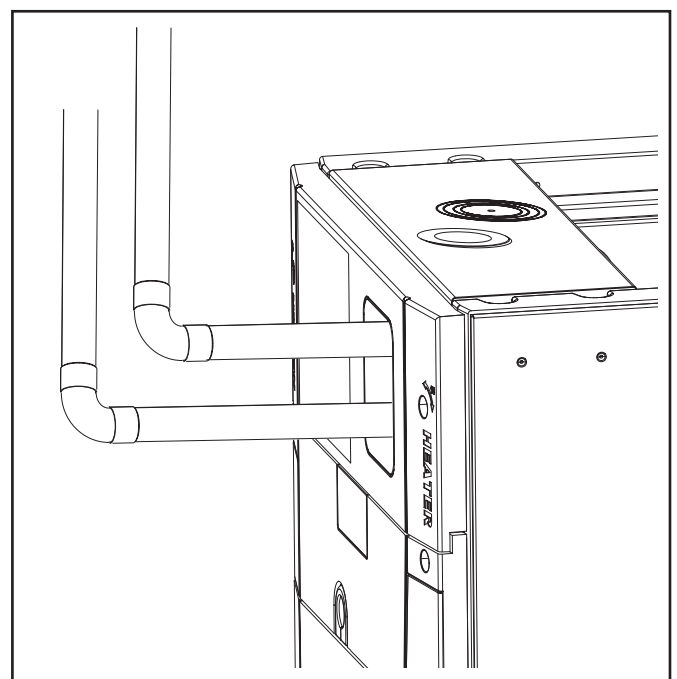
STEP 3 - Dry fit stub outs.

1. Connect, but do not solder, field stub out lines to the coil. Allow a minimum of three (3) inches of lines before using an elbow.



STEP 4 - Dry fit elbows and piping.

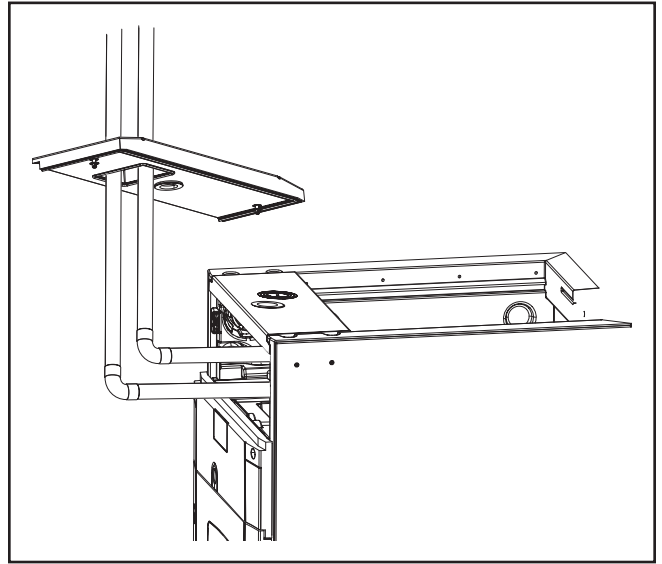
1. Dry fit the elbows and piping to ensure access. Water lines must be staggered enough to allow for insulation. The lines must also be close enough that the panel will slide over and down the lines.



STEP 5 - Solder stub outs.

1. Once a proper fit has been confirmed, remove the heater panel and slide it down the pipes so it is out of the way of any soldering and will not be affected by the solder heat.
2. Solder the stub out connections and allow tubing to cool.

Note: Place heater panel back on Air Handler and continue soldering water lines. Keep the flame and heat away from the Air Handler panels.



STEP 6 - (Recommended) Install vent.

Note: If an air vent is applied in the hydronic system, it must be installed outside of the cabinet and must not obstruct service access to hydronic coil.

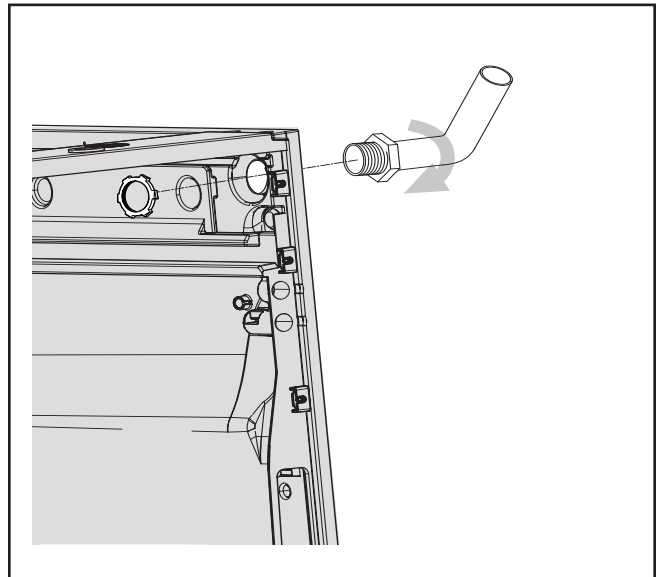
Section 6. High Voltage Wiring

STEP 1 - Select the conduit entry point.

1. Drill a hole for the desired conduit size on units without a plug. A locating target is identified on these units.

Note: Some models may have a pre-molded conduit connection with plug. If a connection hole is already present, remove the plug from the entry point and use as is.

Note: Top or right entry points are recommended for hydronic coil high voltage wiring. This allows clearance to service coil.

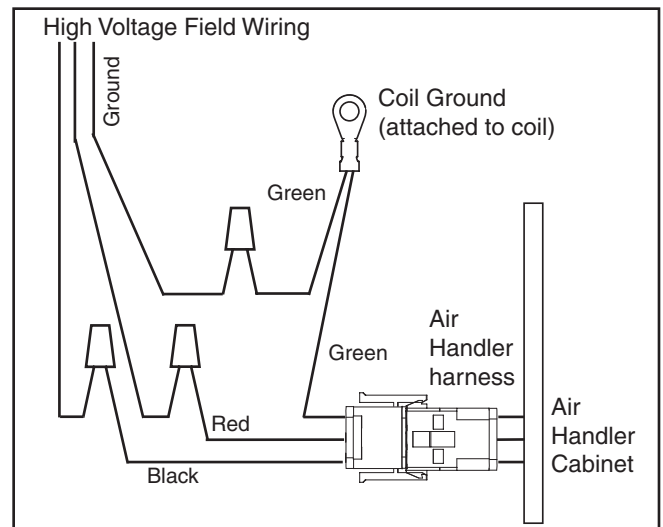
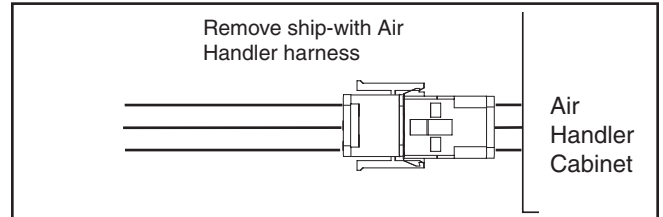


STEP 2 - Run field wiring to entry point.

1. See Air Handler Installer's Guide.

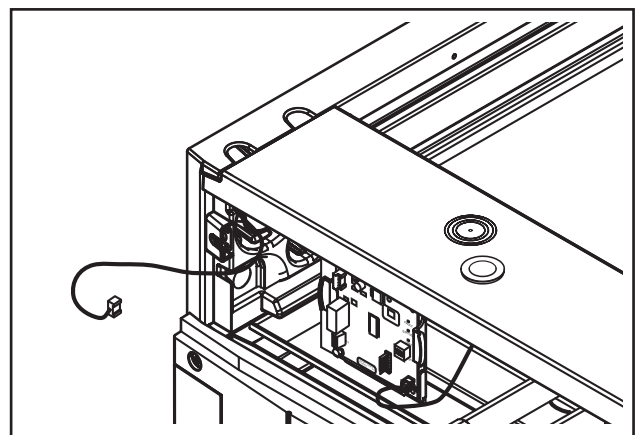
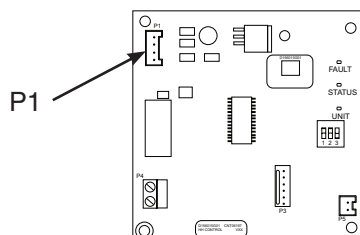
STEP 3 - Connect high voltage wiring

1. Disconnect the existing pigtail harness from the Air Handler, if applicable.
2. Connect the new pigtail harness that is shipped with the hydronic coil.
3. Using wire nuts, connect the high voltage field wiring to the hydronic coil pigtail harness.



Section 7. Low Voltage Wiring

STEP 1 - Connect the factory low voltage wiring harness to P1 on the control board as shown.

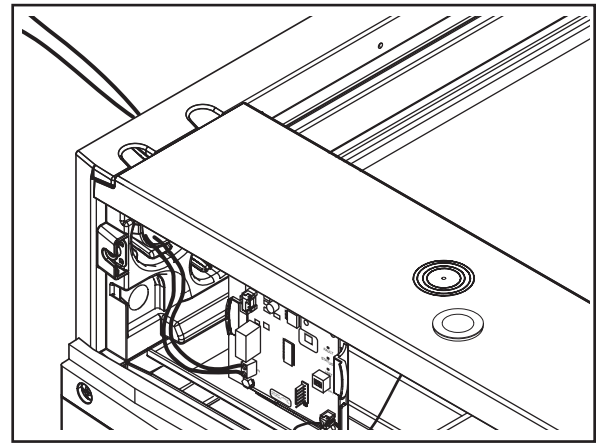
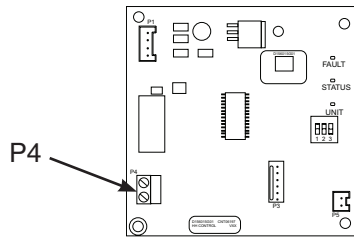


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STEP 2 - Connect low voltage field wiring to P4 as shown. See Section 7 for field wiring information.

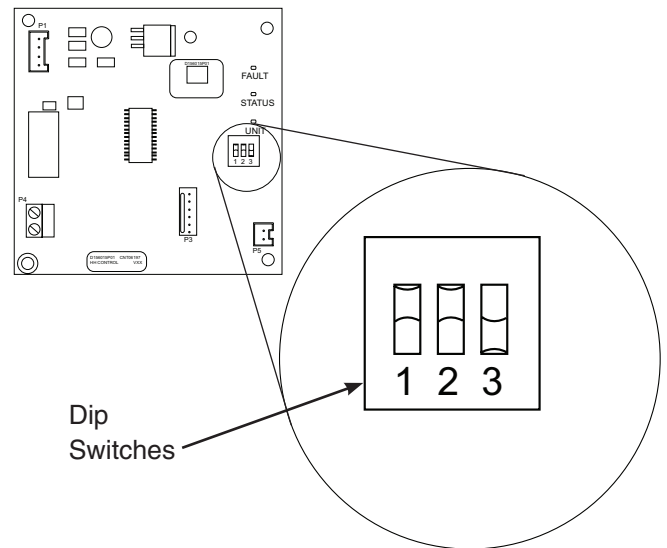
IMPORTANT: Line voltage must not be applied.

NOTE: P4 relay contacts are not powered and rated for 1.0 Amp at 24 VAC.



Step 3 - Low Voltage board Dip Switches - DS1 dip switches are factory set. Adjustments can be made per the table.

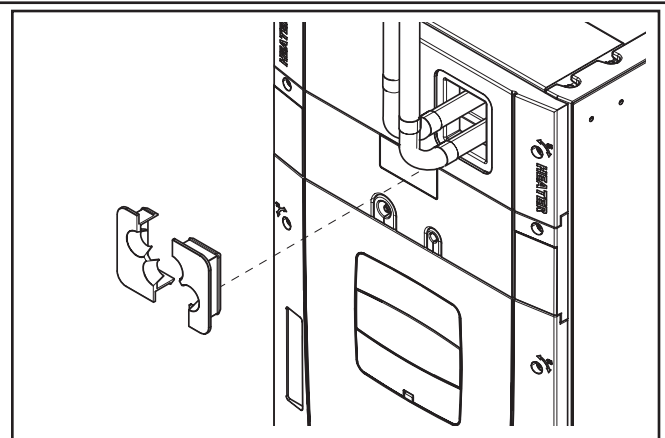
HHC DIP SWITCH SETTINGS			
COIL MODEL / AHU MODEL	S1-1	S1-2	S1-3
BAYWA5 w/TAM7A0A24 BAYWA5 w/TAM8A0A24 BAYWA5 w/TAMGA0A24	OFF	OFF	ON
BAYWA7 w/TAM7A0B30 BAYWA7 w/TAM8A0B30	OFF	ON	OFF
BAYWA8 w/TAM7A0C36 BAYWA8 w/TAM8A0C36 BAYWA8 w/TAMGA0C36	OFF	ON	ON
BAYWA8 w/TAM7A0C42 BAYWA8 w/TAM8A0C42	ON	OFF	OFF
BAYWA8 w/TAM7A0C48 BAYWA8 w/TAM8A0C48 BAYWA8 w/TAMGA0C48	ON	OFF	ON
BAYWA8 w/TAM7A0C60 BAYWA8 w/TAM8A0C60 BAYWA8 w/TAMGA0C60	ON	ON	OFF



STEP 4 - Replace Heater compartment panel on Air Handler.

STEP 5 - Insert air seal.

1. Insert the two piece air seal around the water lines to ensure an airtight fit.
2. Insulate the water lines per local codes.



Section 8a. TAM7/TAMG Field Setup

NOTE: For TAM8 Field Setup go to Step 8b.

NOTE: Air flow can be adjusted by discreetly controlling the W1, W2, & W3 inputs to the AFC with multi-stage thermostats. See additional notes on wiring diagram.

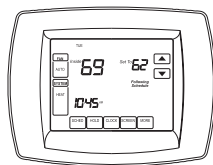
Example: TAM7A0C36 or TAMGA0C36 with BAYWACC08 hydronic heating coil
 W1 input = 396 cfm
 W1 + W2 input = 792 cfm
 W1 + W2 + W3 input = 1200 cfm

Placing a jumper across all W inputs will result in the maximum airflow for the combination of heating coil and Air Handler.

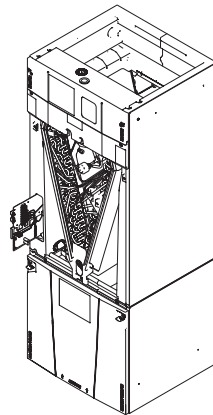
HHC AIRFLOW DEMAND				
COIL MODEL / AHU MODEL	W1	W1 + W2	W1 + W2 + W3	PWM CONTROLLED
BAYWAAA05SC1A w/TAM7A0A24 or TAMGA0A24	264	528	800	Ramped HP Airflow
BAYWABB07SC1A w/TAM7A0B30	330	660	1000	Ramped HP Airflow
BAYWACC08SC1A w/TAM7A0C36 or TAMGA0C36	396	792	1200	Ramped HP Airflow
BAYWACC08SC1A w/TAM7A0C42	462	924	1400	Ramped HP Airflow
BAYWACC08SC1A w/TAM7A0C48 or TAMGA0C48	528	1056	1600	Ramped HP Airflow
BAYWACC08SC1A w/TAM7A0C60 or TAMGA0C60	594	1188	1800	Ramped HP Airflow

Airflow is based upon the heating demand from the confort control based on the heat-pump airflow
 Example: 4T outdoor unit x 400 HP Heating cfm/ton = 1600

Single Stage Heat Pump



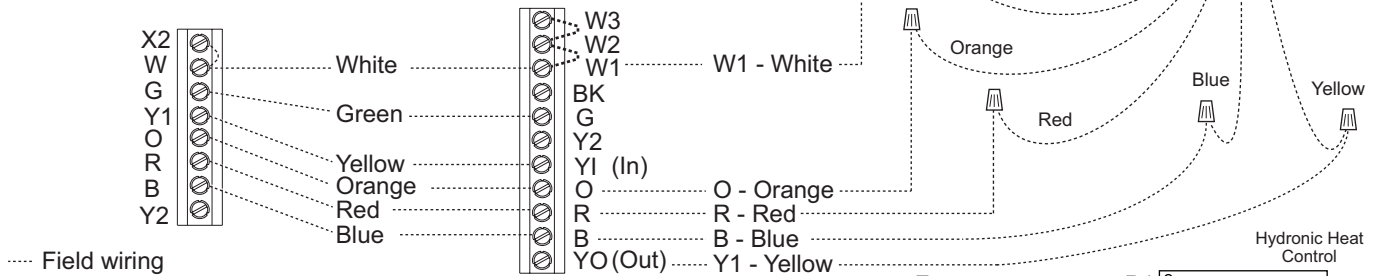
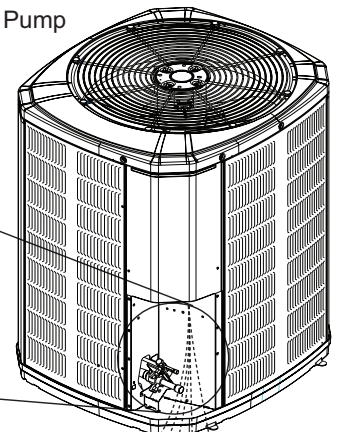
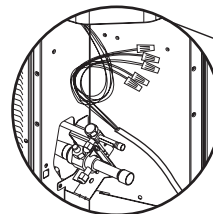
Comfort Control



Series 7 or TAMG Air Handler

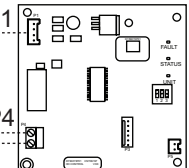
Heat Pump

Neatly bundle all low voltage wires behind the service valve cover as shown.



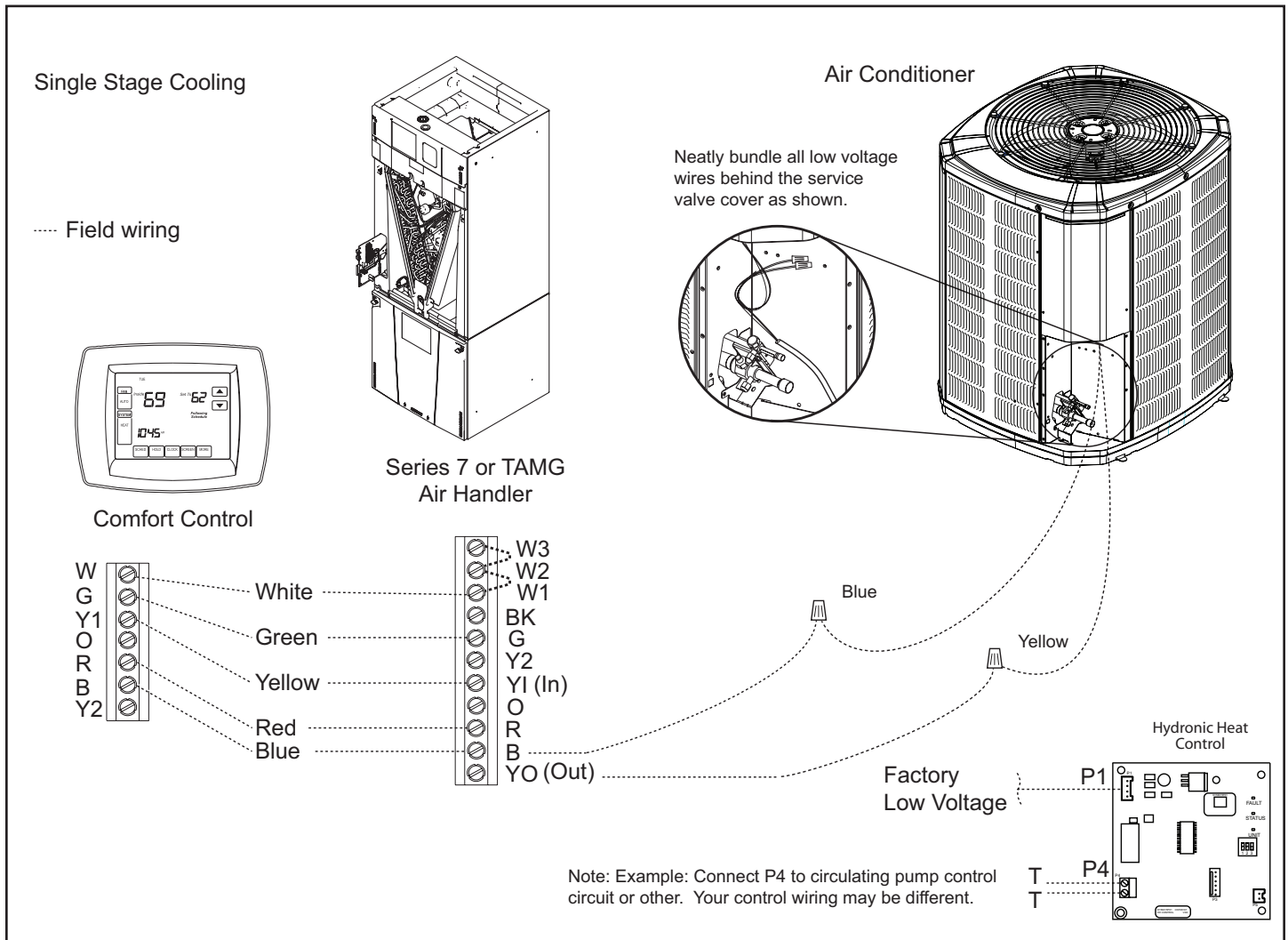
---- Field wiring

Factory Low Voltage



Note: Example: Connect P4 to circulating pump control circuit or other. Your control wiring may be different.

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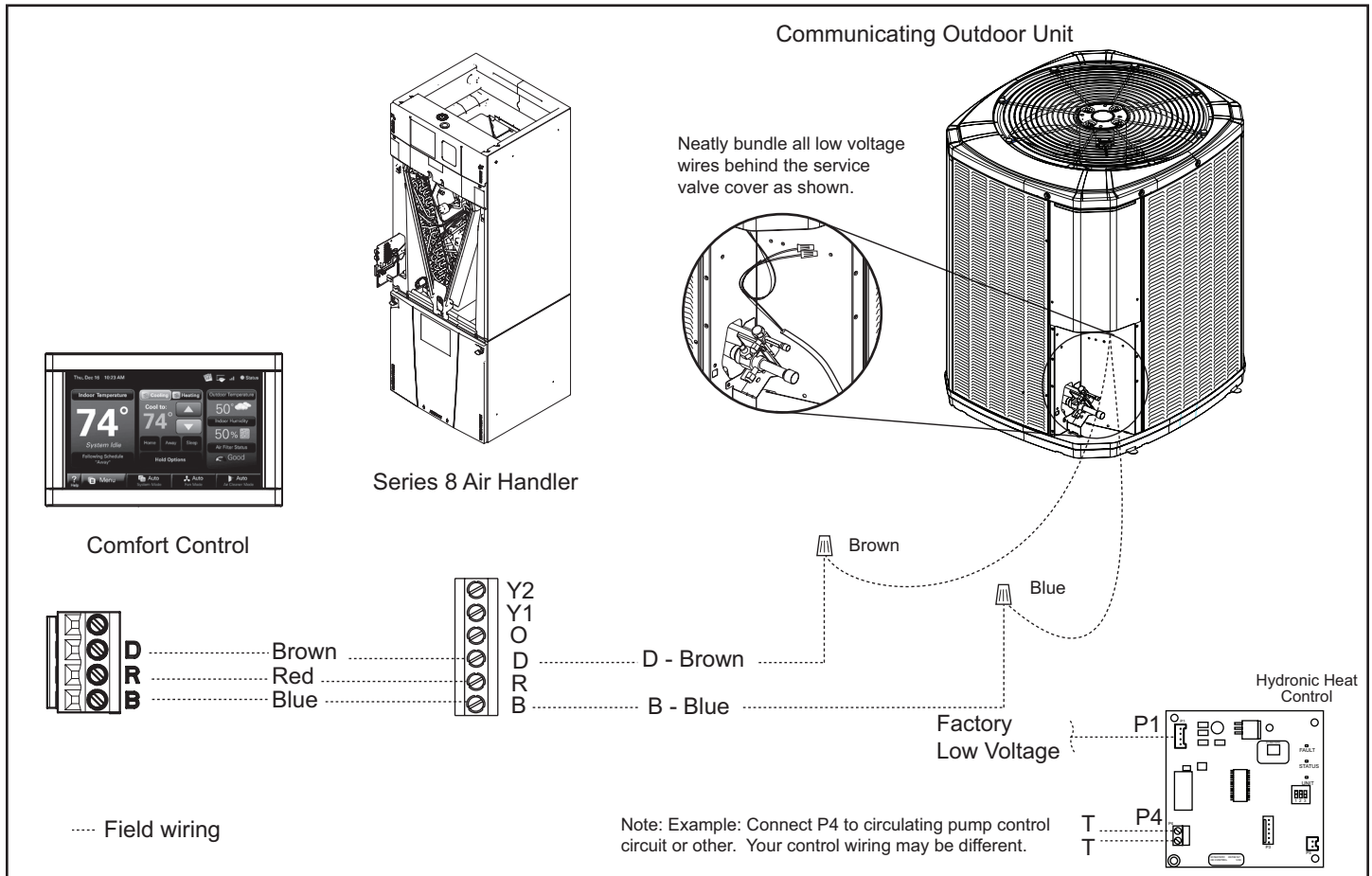
TAM7/TAMG Sequence of Operation

1. R-W1 contacts close on the thermostat sending 24VAC to the W1 terminal of the AFC.
2. The AFC sends the heating request to the HHC. A sixty second timer starts to run on the HHC control board.
3. The relay contacts on terminal P4 close, energizing the boiler system. (Boiler / water pump control is left to the installing contractor. See the field wiring diagram for reference).
4. The HHC starts to monitor the incoming water temperature with the attached sensor.
5. The blower will energize and run on the W1 airflow when either of the two conditions are met:
 - a. The inlet water temperature reaches 100F or
 - b. Sixty second timer expires.
6. If the load increases and W2 contacts on the thermostat close, the airflow is increased.
7. If the load continues to increase the W3 contacts on the thermostat close and the airflow increase to its maximum.

Section 8b. TAM8 Field Setup

HHC AIRFLOW DEMAND		
COIL MODEL / AHU MODEL	MAXIMUM CFM	SERIAL COMMUNICATING
BAYWA5 w/ TAM8A0A24	800	Ramped HP Airflow
BAYWA7 w/ TAM8A0B30	1000	Ramped HP Airflow
BAYWA8 w/ TAM8A0C36	1200	Ramped HP Airflow
BAYWA8 w/ TAM8A0C42	1400	Ramped HP Airflow
BAYWA8 w/ TAM8A0C48	1600	Ramped HP Airflow
BAYWA8 w/ TAM8A0C60	1800	Ramped HP Airflow

Airflow is based upon the heating demand from the confort control based on the heat-pump airflow
 Example: 4T outdoor unit x 400 HP Heating cfm/ton = 1600



TAM8 Sequence of Operation

1. The communicating comfort control sends a message to the AFC for the hydronic heat to come on.
2. The AFC sends the heating request to the HHC. A sixty second timer starts to run on the HHC control board.
3. The relay contacts on terminal P4 close, energizing the boiler system. (Boiler / water pump control is left to the installing contractor. See the field wiring diagram for reference).
4. The HHC starts to monitor the incoming water temperature with the attached sensor.
5. The blower will energize and run at the airflow based on the demand from the comfort control when either of the two conditions are met:
 - a. The inlet water temperature reaches 100F or
 - b. Sixty second timer expires.
6. As the demand increases the confort control will request additional airflow; as the demand decreases the airflow will be reduced until the demand from the confort control is met.

Section 9. Performance Tables

BAYWAAA05SC1AAA/BAYWVAA05SC1AAA

Entering Air Temperature 70°F db, 60°F wb

SCFM	GPM	Airside Pressure Drop, "W.C.	120°F Entering Water Temp		150°F Entering Water Temp		180°F Entering Water Temp	
			Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F
450	3	0.11	11153	94.5	18476	109.7	26056	125.6
	6		12711	97.6	20675	114.6	29058	131.6
	9		13329	98.9	21809	116.5	30319	134.5
550	3	0.15	12463	92.3	20456	106.2	28865	120.9
	6		14303	95.6	23399	111.3	32697	126.8
	9		15157	96.6	24664	113.1	34279	130.2
700	3	0.22	13980	89.5	23029	101.9	32380	114.7
	6		16318	92.8	26554	106.9	37182	121.0
	9		17413	93.9	27918	108.9	39416	124.3
800	3	0.27	14834	88.0	24652	99.5	34547	111.2
	6		17595	91.3	28752	104.6	40051	117.8
	9		18868	92.4	30021	106.6	42525	120.8

BAYWABB07SC1AAA/BAYWVBB07SC1AAA

Entering Air Temperature 70°F db, 60°F wb

SCFM	GPM	Airside Pressure Drop, "W.C.	120°F Entering Water Temp		150°F Entering Water Temp		180°F Entering Water Temp	
			Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F
1050	3	0.21	15164	90.2	25005	102.1	35409	114.7
	6		17507	93.0	28881	106.9	40151	120.5
	9		18588	94.3	30413	108.8	42332	124.3
1200	3	0.24	16045	88.9	26445	99.9	37366	111.7
	6		18706	91.6	30875	104.8	42765	117.5
	9		19937	93.0	32628	106.6	45529	121.7
1350	3	0.27	16837	87.6	27781	98.0	39225	109.1
	6		19747	90.4	32581	102.9	45296	114.9
	9		21145	91.8	34209	104.5	48229	119.1
1500	3	0.31	17495	86.6	28903	96.4	40874	106.8
	6		20665	89.3	34215	101.2	47519	112.6
	9		22278	90.7	36114	102.9	50731	117.1
1600	3	0.37	18402	85.4	30547	94.4	42953	103.8
	6		22042	88.0	36262	99.0	50606	109.8
	9		23736	89.4	38793	100.9	54093	114.3

BAYWACC08SC1AAA/BAYWVCC08SC1AAA

Entering Air Temperature 70°F db, 60°F wb

SCFM	GPM	Airside Pressure Drop, "W.C.	120°F Entering Water Temp		150°F Entering Water Temp		180°F Entering Water Temp	
			Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F
1050	3	0.23	18365	87.4	30258	97.6	42313	108.2
	6		22010	90.7	36411	103.0	50742	115.5
	9		23908	92.1	38853	105.2	54058	118.4
1200	3	0.29	19357	86.1	31896	95.5	44695	105.2
	6		23497	89.2	38699	100.7	54234	112.5
	9		25582	90.9	41508	102.9	57801	115.3
1350	3	0.36	20240	85.0	33306	93.8	46780	102.9
	6		24835	88.1	40909	98.9	57309	109.9
	9		27144	89.6	44047	101.1	61364	112.7
1500	3	0.43	21137	84.0	34789	92.2	48801	100.8
	6		26070	87.0	42943	97.3	60073	107.7
	9		28545	88.6	46322	99.5	64553	110.6
1600	3	0.48	21588	83.4	35536	91.4	49974	99.6
	6		26822	86.3	44027	96.3	61743	106.3
	9		29378	87.9	47688	98.4	66651	109.2
1700	3	0.53	21945	82.8	36508	90.6	51234	98.4
	6		27524	85.8	45223	95.3	63353	105.0
	9		30249	87.2	49014	97.6	68820	107.9

Water Pressure Drop

	GPM	PD, Head water (ft)
BAYWAAA05SC1AAA/BAYWVAA05SC1AAA	3	0.4
	6	1.7
	9	3.8
BAYWABB07SC1AAA/BAYWVBB07SC1AAA	3	0.5
	6	2.0
	9	4.5
BAYWACC08SC1AAA/BAYWVCC08SC1AAA	3	0.5
	6	1.7
	9	3.7

Section 10. Alert LED Codes

HHC FAULT CODES (RED LED)

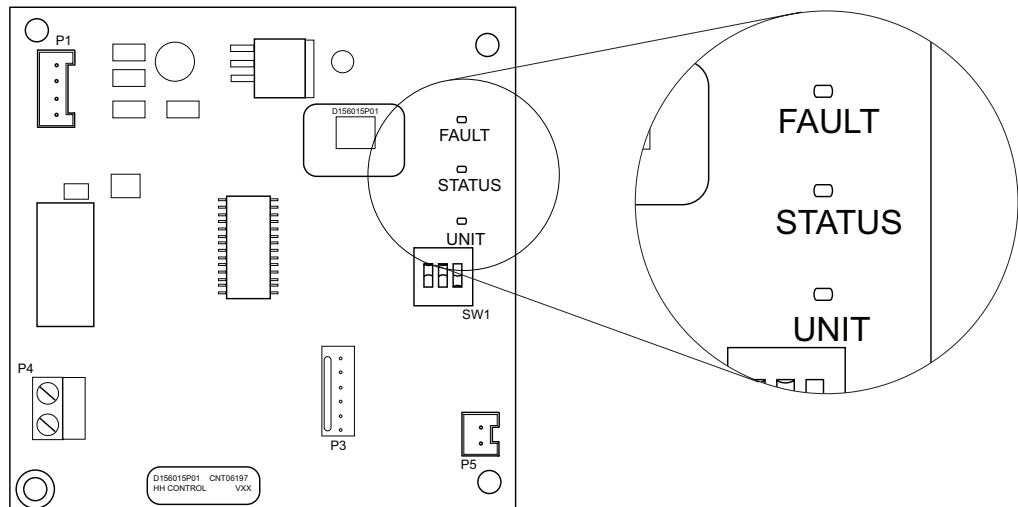
HHC Fault LED	Description
OFF	No fault
1	Internal communication error
2	Water temp is at 38F or lower
3	Water temp sensor is shorted
4	Water temp sensor is open
5	Configuration error (1)
6	Heat demand error
NOTES:	1) Confirm heater model and dip switch configuration

HHC STATUS CODES (GREEN LED)

HHC STATUS LED	Description
1 per second	Standby or idle (see note)
2 per second	Heating demand is present

HHC UNIT LED (BLUE LED)

Unit LED	Description
1 Flash	Normal (1 flash every 4 seconds)
Rapid	Communication Busy Error (2 flashes per second)
SOLID ON	Communications cannot be established with the AFC
Off	No Power



Section 11. Thermal Resistance and Voltage Table

TEMP °F	TEMP °C	THERMISTOR RESISTANCE (OHMS)	Volts DC at plug JP5
20	-6.7	46230	2.586
22	-5.6	43582	2.512
24	-4.4	41102	2.439
26	-3.3	38780	2.366
28	-2.2	36604	2.297
30	-1.1	34564	2.224
32	0.0	32650	2.155
34	1.1	30855	2.087
36	2.2	29170	2.019
38	3.3	27588	1.950
40	4.4	26101	1.887
42	5.6	24704	1.823
44	6.7	23391	1.760
46	7.8	22156	1.696
48	8.9	20993	1.637
50	10.0	19899	1.579
52	11.1	18869	1.520
54	12.2	17899	1.466
56	13.3	16984	1.413
58	14.4	16122	1.364
60	15.5	15310	1.310
62	16.7	14543	1.261
64	17.8	13819	1.212
66	18.9	13136	1.168
68	20.0	12490	1.124
70	21.1	11881	1.080
72	22.2	11304	1.041
74	23.3	10760	0.997
76	24.4	10245	0.963
78	25.5	9757	0.924
80	26.6	9296	0.890
82	27.8	8859	0.855
84	28.9	8446	0.821
86	30.0	8054	0.787
88	31.1	7683	0.758
90	32.2	7331	0.728
92	33.3	6998	0.699
94	34.4	6681	0.674
96	35.5	6381	0.645
98	36.6	6096	0.621
100	37.8	5826	0.596
102	38.9	5569	0.572
104	40.0	5324	0.552
106	41.1	5093	0.528
108	42.2	4872	0.508
110	43.3	4662	0.489
112	44.4	4463	0.469
114	45.5	4273	0.455
116	46.6	4093	0.435
118	47.7	3921	0.420
120	48.9	3757	0.401

TEMP °F	TEMP °C	THERMISTOR RESISTANCE (OHMS)	Volts DC at plug JP5
122	50.0	3601	0.386
124	51.1	3453	0.371
126	52.2	3311	0.357
128	53.3	3176	0.347
130	54.4	3048	0.332
132	55.5	2925	0.318
134	56.6	2808	0.308
136	57.7	2696	0.298
138	58.8	2590	0.283
140	60.0	2488	0.274
142	61.1	2391	0.264
144	62.2	2298	0.254
146	63.3	2209	0.244
148	64.4	2124	0.235
150	65.5	2043	0.230
152	66.6	1966	0.220
154	67.7	1891	0.210
156	68.8	1820	0.205
158	69.9	1753	0.196
160	71.1	1688	0.191
162	72.2	1625	0.186
164	73.3	1566	0.176
166	74.4	1509	0.171
168	75.5	1454	0.166
170	76.6	1402	0.161
172	77.7	1351	0.156
174	78.8	1303	0.147
176	79.9	1257	0.142
178	81.1	1213	0.137
180	82.2	1170	0.132
182	83.3	1130	0.132
184	84.4	1091	0.127
186	85.5	1053	0.122
188	86.6	1017	0.117
190	87.7	982	0.112
192	88.8	949	0.108
194	89.9	917	0.108
196	91.0	886	0.103
198	92.2	857	0.098
200	93.3	828	0.098
202	94.4	801	0.093
204	95.5	775	0.093
206	96.6	750	0.088
208	97.7	725	0.083
210	98.8	702	0.083
212	99.9	679	0.078
214	101.0	658	0.078
216	102.1	637	0.073
218	103.3	617	0.073
220	104.4	597	0.068