

INSTALLER'S GUIDE

18-GJ21D1-2A-EN

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

Models:

BAYWAAA05SC1AA
BAYWABB07SC1AA
BAYWACC08SC1AA

Hydronic Coil Accessory

Fits Hyperion™ and ForeFront™
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.

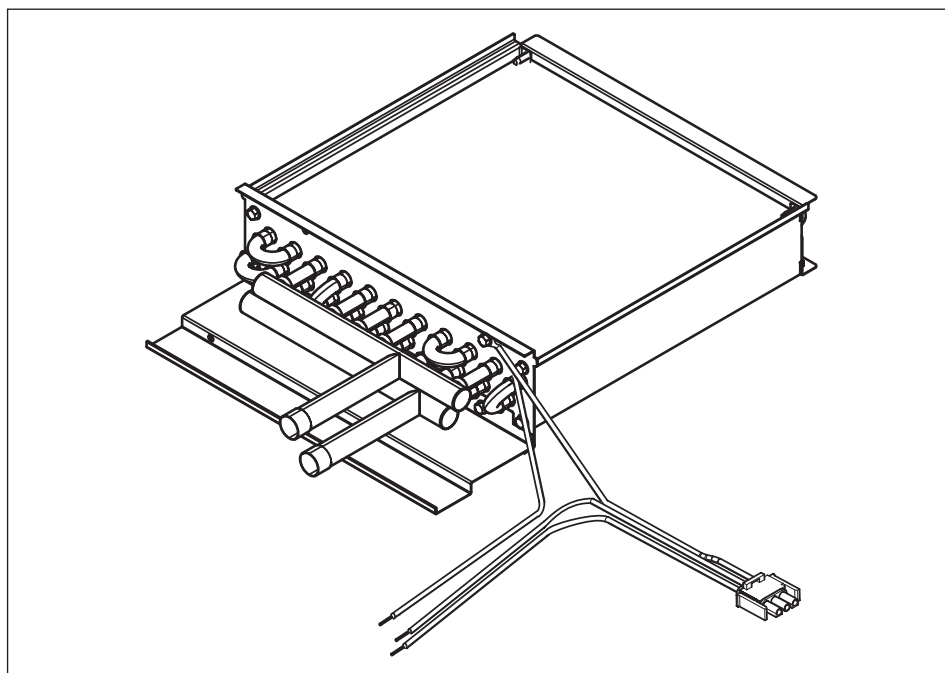


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Section 1. Safety Considerations

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.

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.

Section 2. General Information

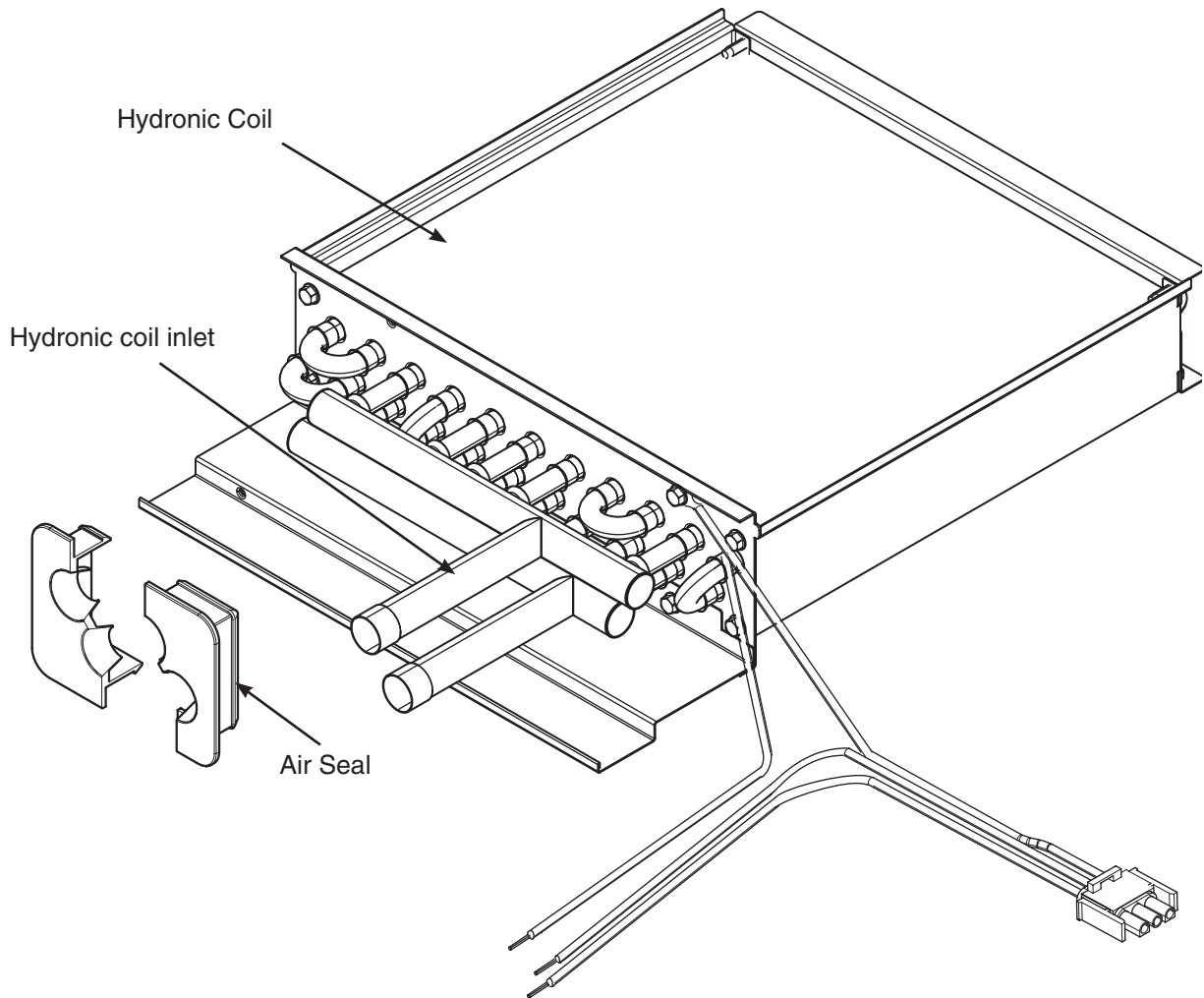
This accessory hydronic coil is designed to deliver primary or secondary heating capacity using a non-potable water source. Maximum entering water temperature is 180 °F.

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	A	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 (9 and 5)					A										
	V = Air Handler Tier (7 and 8)															
	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

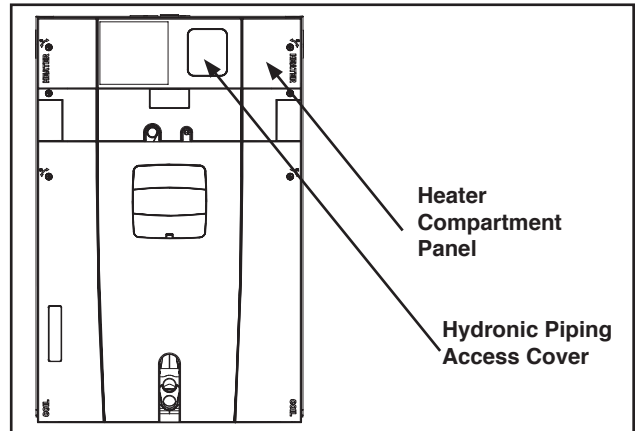
Section 3. Hydronic Coil Assembly

Field Pipe Connections:
7/8" OD, 3/4" ID, copper tubing



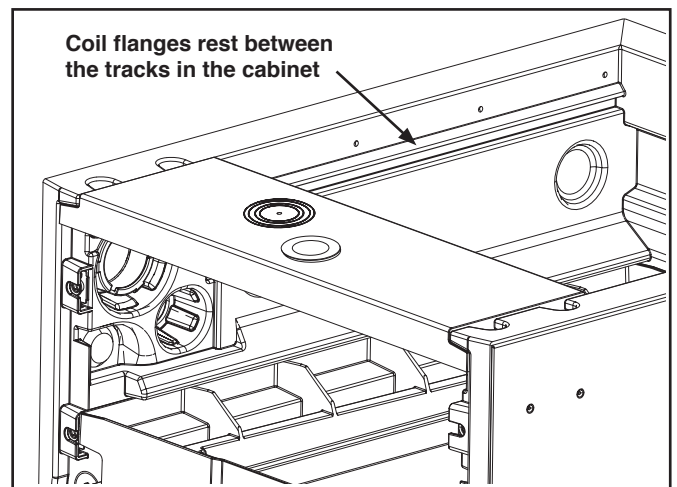
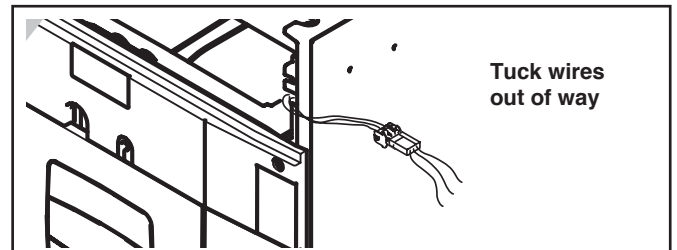
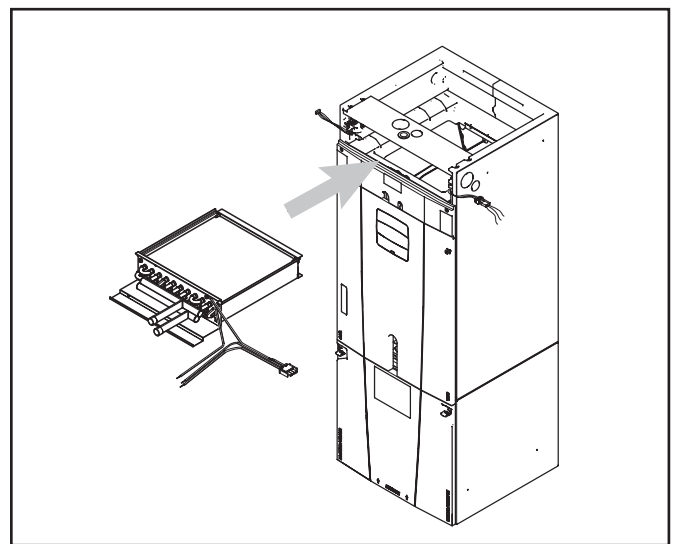
Section 4. Install Hydronic Coil

STEP 1 - Remove Heater Compartment Panel



STEP 2 - Insert hydronic coil assembly into heater compartment.

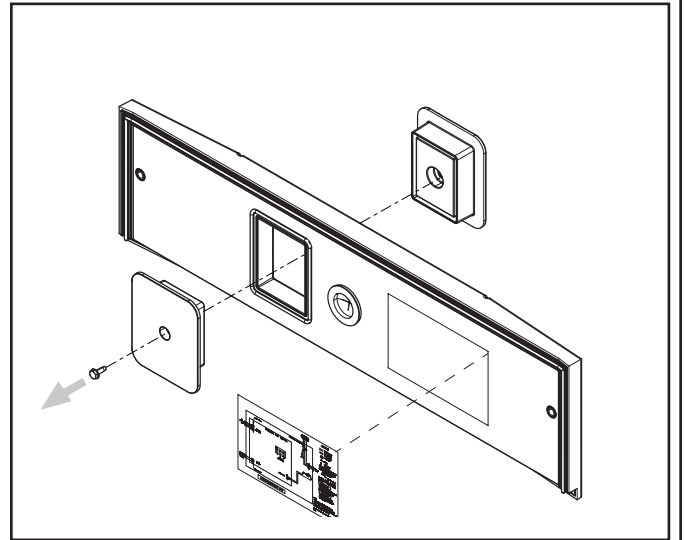
1. Tuck factory wiring out of the way and into the grooves provided in cabinet.
2. Align the rails of the coil with the tracks in the air handler cabinet and slide the hydronic coil into place.



Section 5. Piping

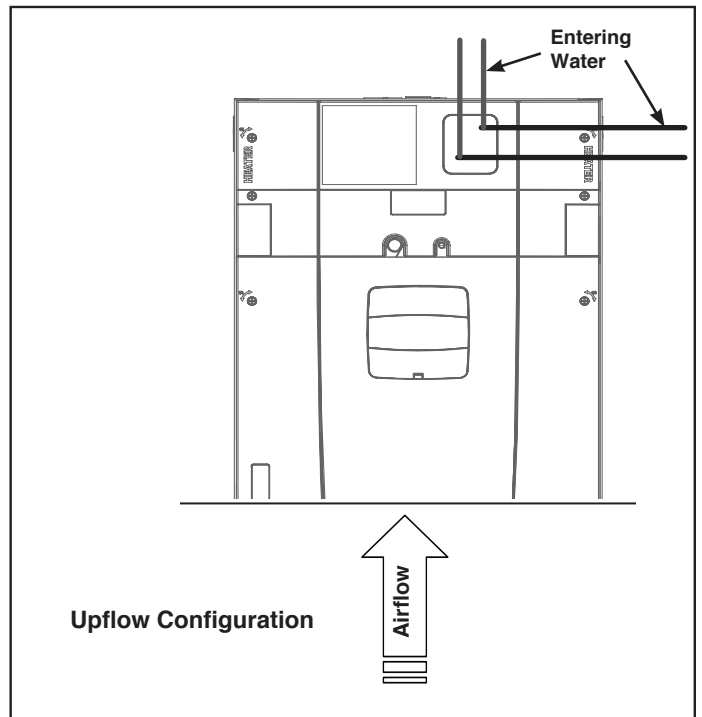
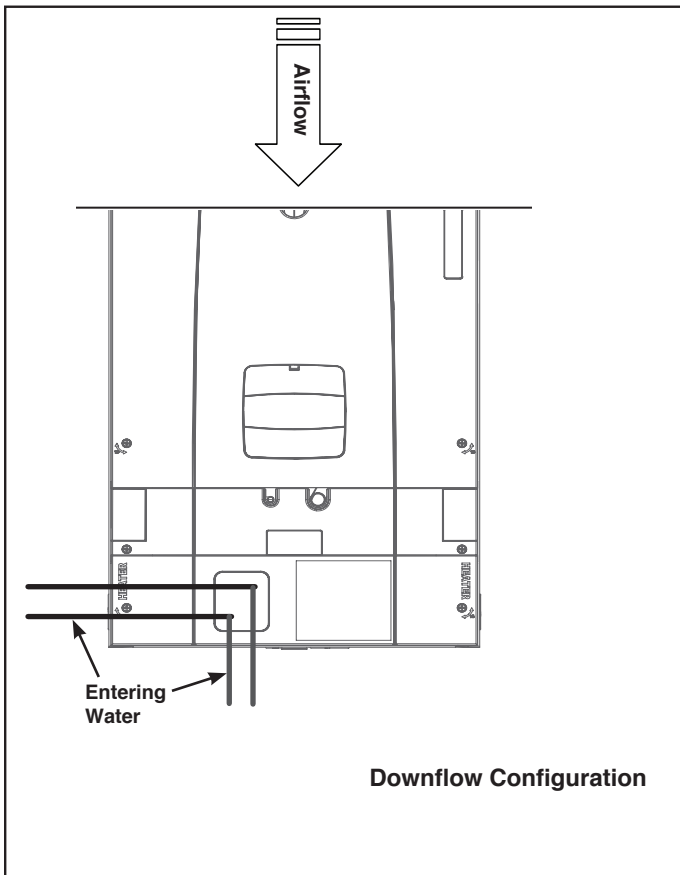
STEP 1 - Remove hydronic piping access cover from heater compartment panel.

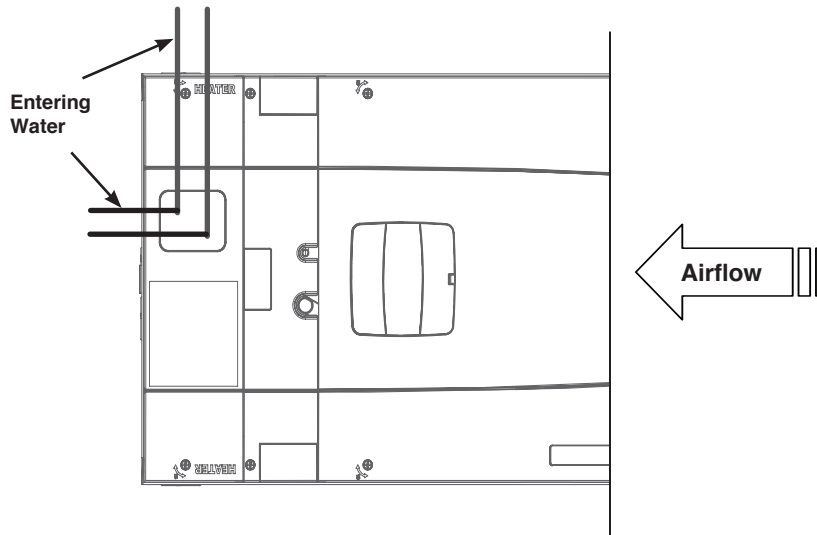
1. Remove 5/16 hex screw on back of cover.
2. Attach new wiring diagram to the inside of the heater panel.



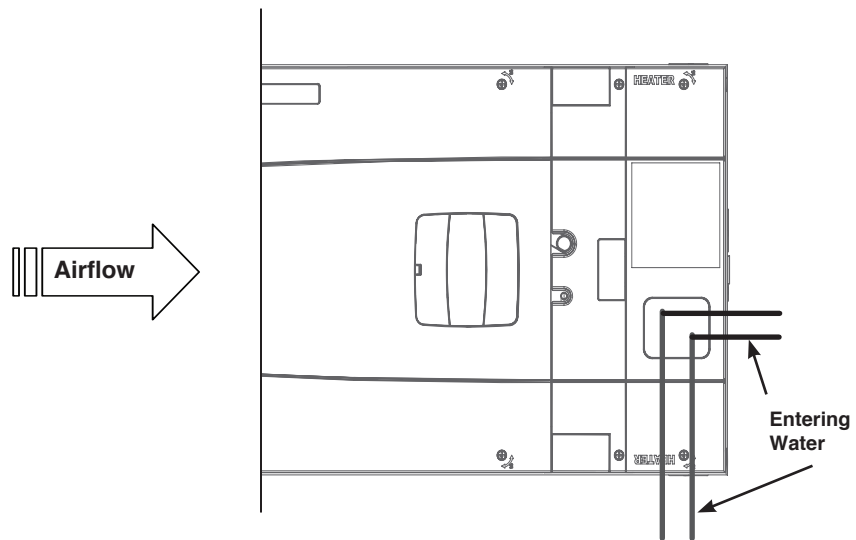
NOTE - The hydronic coil can be installed in upflow, downflow, or horizontal positions. The following illustrations show the recommended vertical and horizontal piping configurations. Piping must consist of two vertical pipes or two horizontal pipes.

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





Horizontal Left Configuration



Horizontal Right Configuration

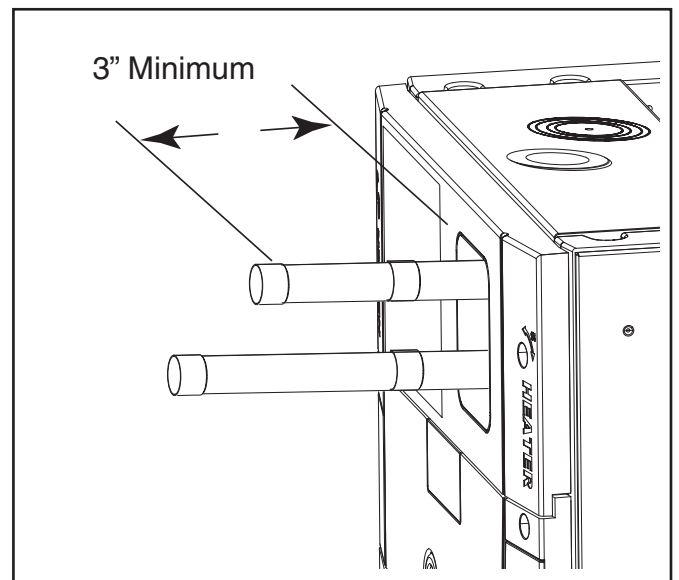
STEP 2 - Run piping.

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.

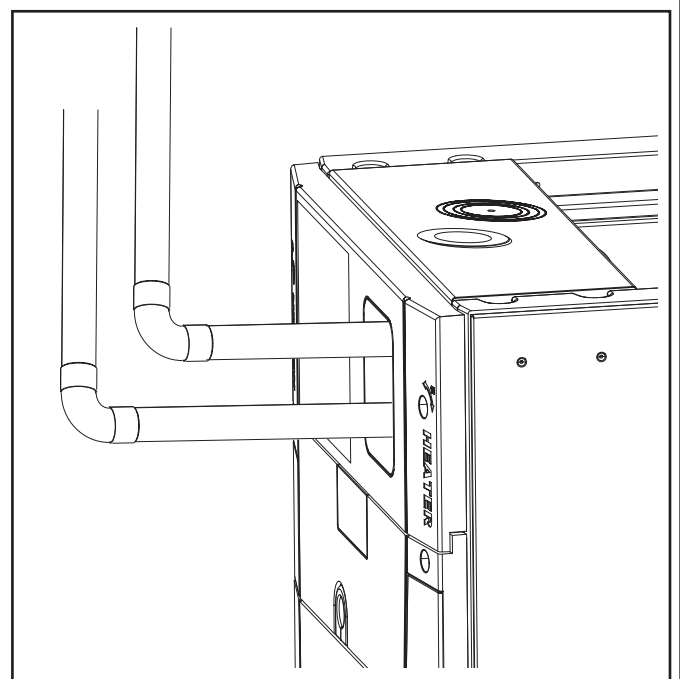
STEP 3 - Dry fit stub outs.

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.

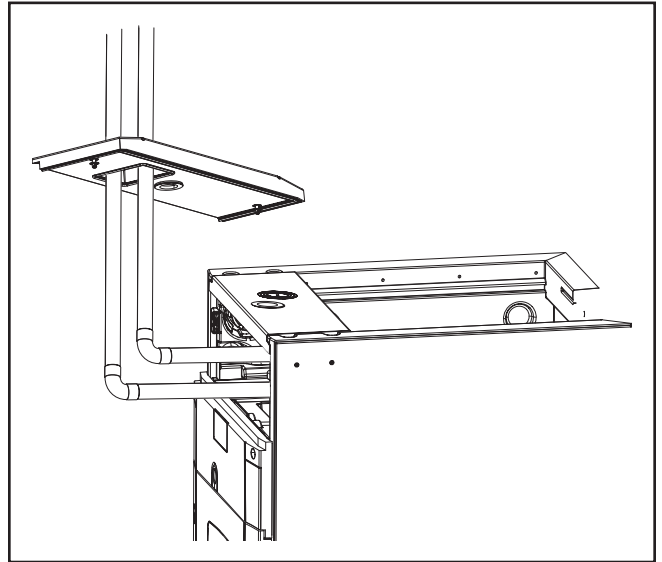
1. Dry fit the elbows and piping to ensure access. Water lines must be staggered enough to allow for insulation. The lines must also be close enough that the panel will slide over and down the lines.



STEP 4 - 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 5 - (Recommended) Install vent.

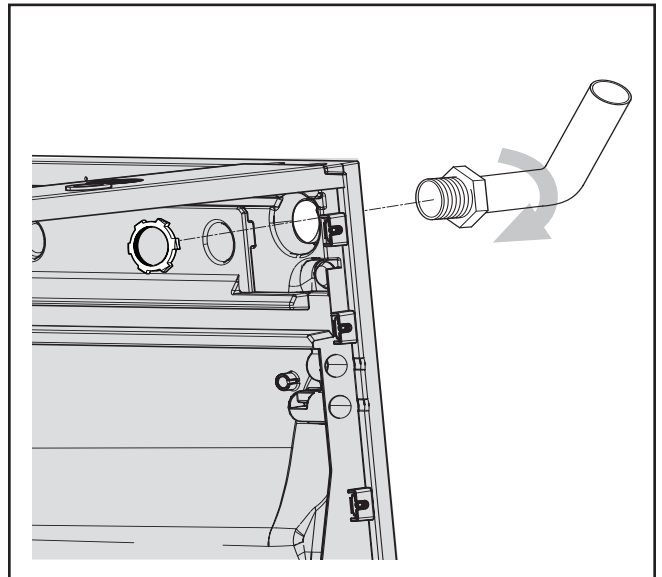
Note: If an air vent is applied in the hydronic system, it must be installed outside of the cabinet and must not obstruct service access to hydronic coil.

Section 6. High Voltage Wiring

STEP 1 - Select the conduit entry point.

1. Select the conduit entry point you will use to bring in your high voltage wiring.
2. Remove plug.
3. Install conduit per air handler Installer's Guide.

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

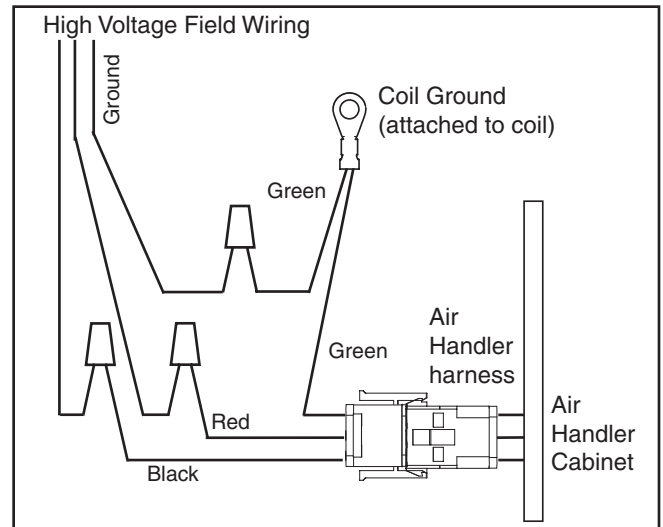
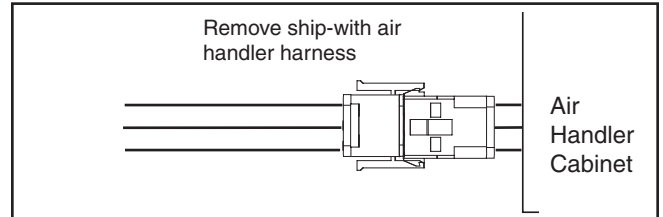


STEP 2 - Run field wiring to entry point.

1. See air handler Installer's Guide.

STEP 3 - Connect high voltage wiring

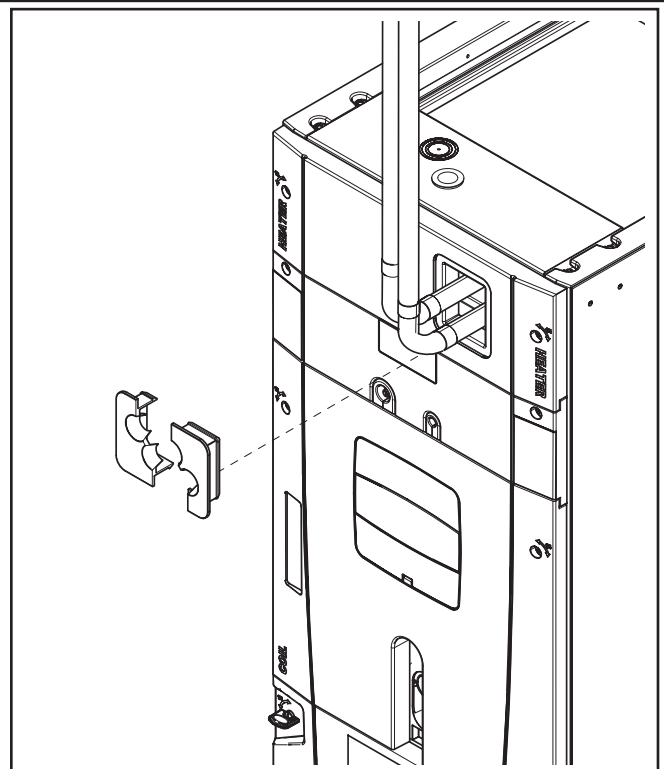
1. Disconnect the existing pigtail harness from the air handler.
2. Connect the new pigtail harness that is shipped with the hydronic coil.
3. Connect the high voltage field wiring, using wire nuts, to the pigtail harness.



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 7. 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	116.6
1600	3	0.37	18402	85.4	30547	94.4	42953	103.8
	6		22042	88.0	36282	99.0	50606	109.8
	9		23736	89.4	38793	100.9	54093	113.8

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

About Trane and American Standard Heating and Air Conditioning

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