BCG2 Boiler Panels

Installation, Operation, and Maintenance Manual

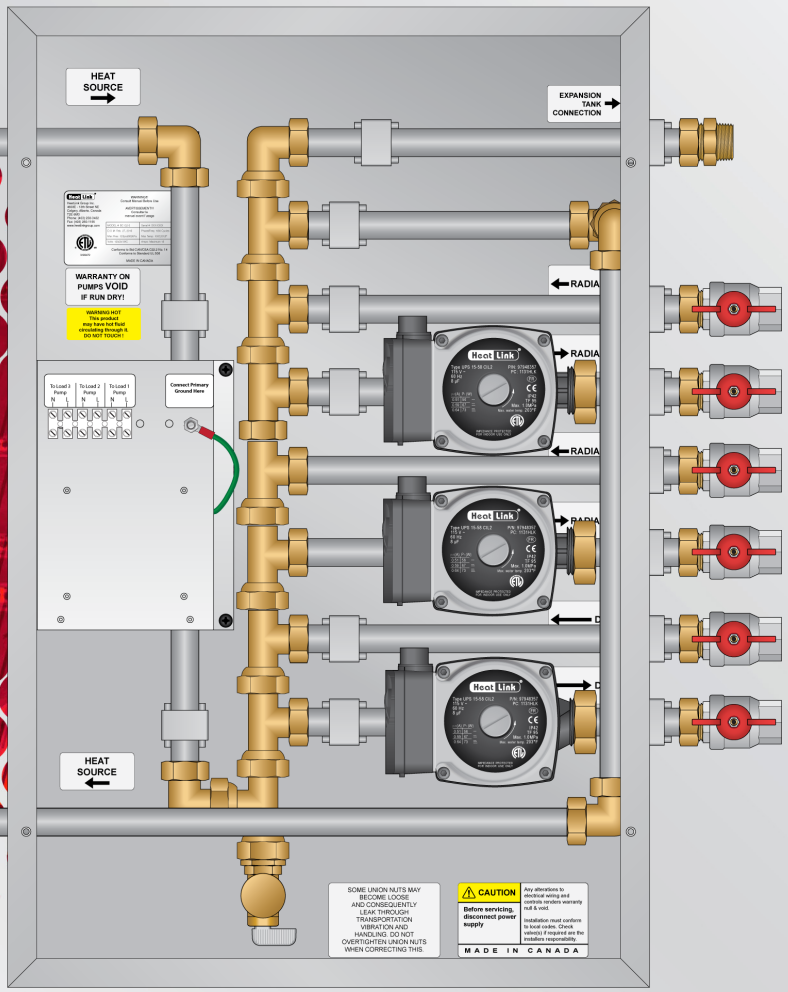


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Warnings

The BC G2 panel is for indoor use only and must be installed by a qualified installer/service technician. This product must be installed and operated in strict accordance with the terms set out in this manual and in accordance with the relevant requirements of the Local Authority Having Jurisdiction. Failure to comply will result in a void of warranty, and may also result in property damage, serious injury, or death.

Servicing

Prior to commencing installation of this panel it is necessary to read and understand all sections of



Warning
Possible Hazard



Warning
Live Power



Warning
Hot Pipes



Warning
Treated Water



In order to avoid injury or death, switch off the power to the panel prior to inspecting or making connections to the terminal strip.

this manual. The symbols below are used throughout this document to ensure proper operation of the panel, and your safety. Please pay attention to these symbols.

Disclaimer

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Tools For Installation

- Level
- Screwdriver or power drill
- Flat head bit
- Phillips head bit # 2
- 2 adjustable wrenches (or 2× 30mm wrenches and 2× 40mm wrenches)

Function

This panel is specially designed to work with the IBC SL 20-115 G2 boiler and can provide distribution and zoning for a wide variety of hydronic heating applications.
The effectiveness of the system is dependant on the system being designed and installed correctly. Proper consideration of factors such as BTU loads, outdoor design temperature, indoor design temperature, room set-point temperature(s), differential fluid temperatures, head loss, flow rates, and transfer capacities of the heat emitters is critical.
Once these factors have been considered and the system requirements determined, these can then be evaluated and compared to the zone control panel capabilities (refer to pages 5-8).

Note: *This panel does not regulate or monitor the operating safety limit temperatures of the fluid leaving the heat source.*

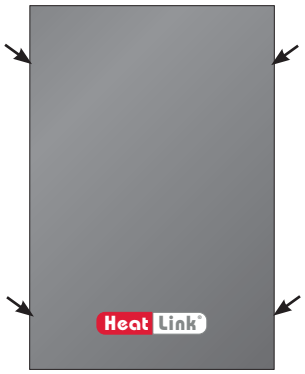
Unpacking

Step 1 Examine carton for any damage that mat have occured during shipping. If damage is visible notify your courier and supplier right away.

Step 2 Remove the staples and open the carton.

Step 3 Remove the cardboard spacers, then remove the panel from the carton. Lift the panel by the base, never by the cover!

Step 4 Remove the 4 screws holding the cover in place.



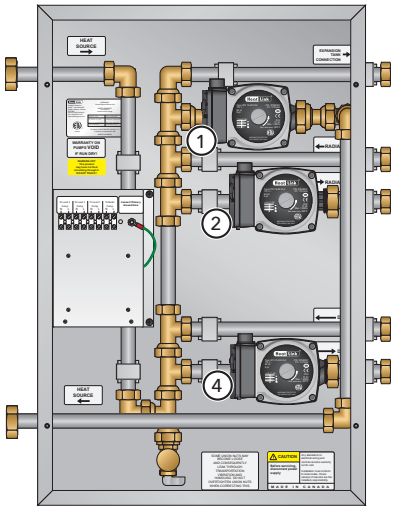
Step 5 Remove the cover from the panel.

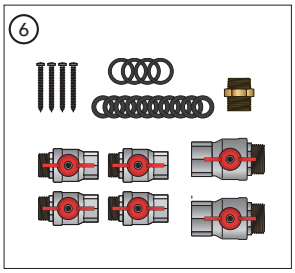
Step 6 Verify the following items:

- Installation, Operation and Maintenance Manual
- Accessory Pack (see next page for details)

Panel Components

BC G2-1

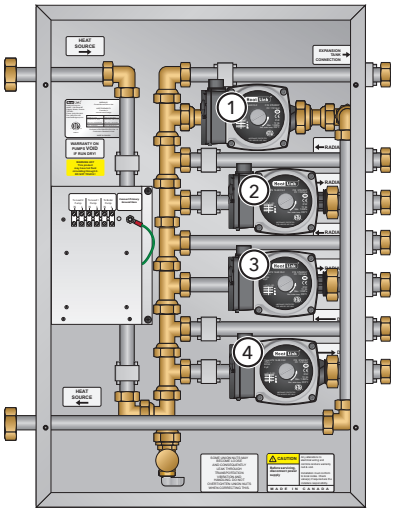


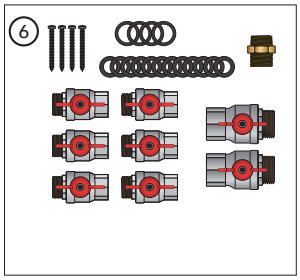


- (4) mounting screws
- (10) ¾" rubber washers
- (4) 1" rubber washers
- (1) ¾" MBSP x ¾" MNPT adapter
- (4) ¾" valve assemblies
- (2) 1" valve assemblies



BC G2-2





- (4) mounting screws
- (12) ¾" rubber washers
- (4) 1" rubber washers
- (1) ¾" MBSP x ¾" MNPT adapter
- (6) ¾" valve assemblies
- (2) 1" valve assemblies

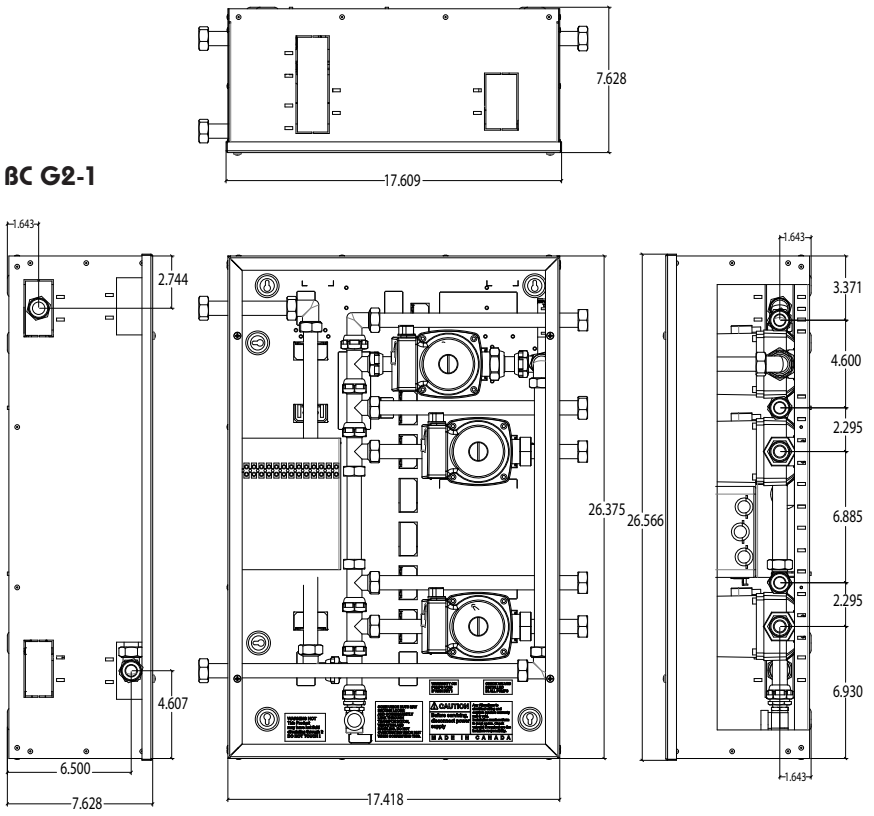
#	Component	Part Number	
		BC G2-1	BC G2-2
1	Primary Circulator	PUMP1558	PUMP1558
2	Radiant 1 Circulator	PUMP1558	PUMP1558
3	Radiant 2 Circulator	n/a	PUMP1558
4	DHW Circulator	PUMP1558	PUMP1558
5	Cover	n/a	n/a
6	Accessory Pack	ACCBCG2-1	ACCBG2-2

Specifications

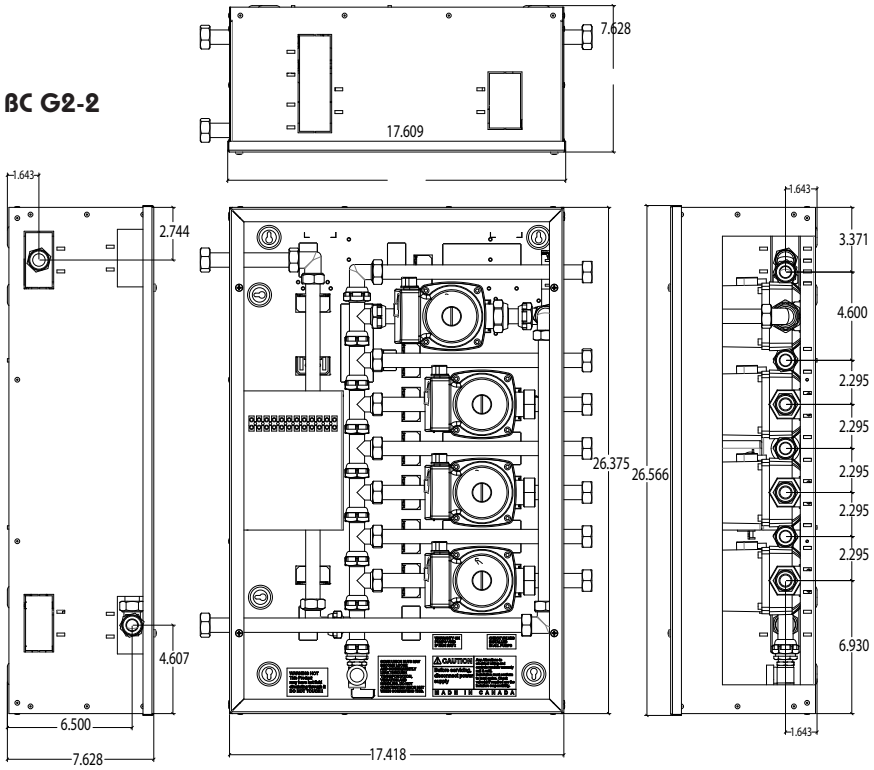
	BC G2-1	BC G2-2
Listing	cETLus	
Conforms to	CAN/CSA-C22 No.14, UL508	
Dimensions	26.566"H × 17.609"W × 7.628"D	
Nominal panel output	80,000 btu/hr	100,000 btu/hr
Nominal flow	6.0 US gpm @ 35°F ΔT	10.0 US gpm @ 35°F ΔT
Max ambient temperature	120°F (49°C)	
Min operating temperature	40°F (4°C)	
Max operating temperature	200°F (93°C)	
Max operating pressure	125 psi (862 kPa)	
Power requirements	120 V(ac)/24 V(ac) 60 Hz	
Primary circulator	Non-ferrous, Grundfos UPS15-58	
Radiant 1 circulator	Non-ferrous, Grundfos UPS15-58	
Radiant 2 circulator	n/a	Non-ferrous, Grundfos UPS15-58
DHW circulator	Non-ferrous, Grundfos UPS15-58	
Auxiliary terminal	2 dry contacts, max. load 1.5A	
Piping	¾" 304 Stainless steel tubing	
Piping connections	¾" and 1" FNPT	
Backplate and enclosure	16 gauge galvanized steel	
Cover	Powder coated steel	

Dimensions

BC G2-1



BC G2-2

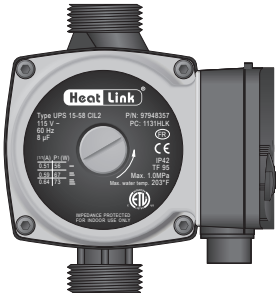


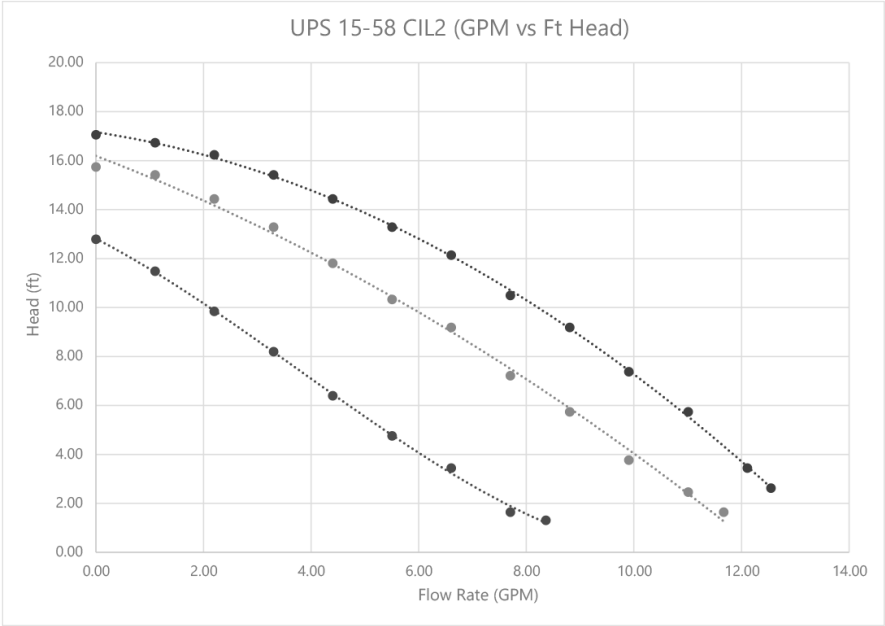
Panel Component Specifications

Circulators

The circulators moves the heated fluid through the hydronic system when there is a call for heat from the thermostat.

Specifications:
• The following pump curves apply.





Mounting

Prior to mounting the panel, ensure the wall is capable of supporting the weight of the panel. The panel is meant to be mounted on the right side of the boiler.

Installation of this panel is to be completed by a minimum of two people.

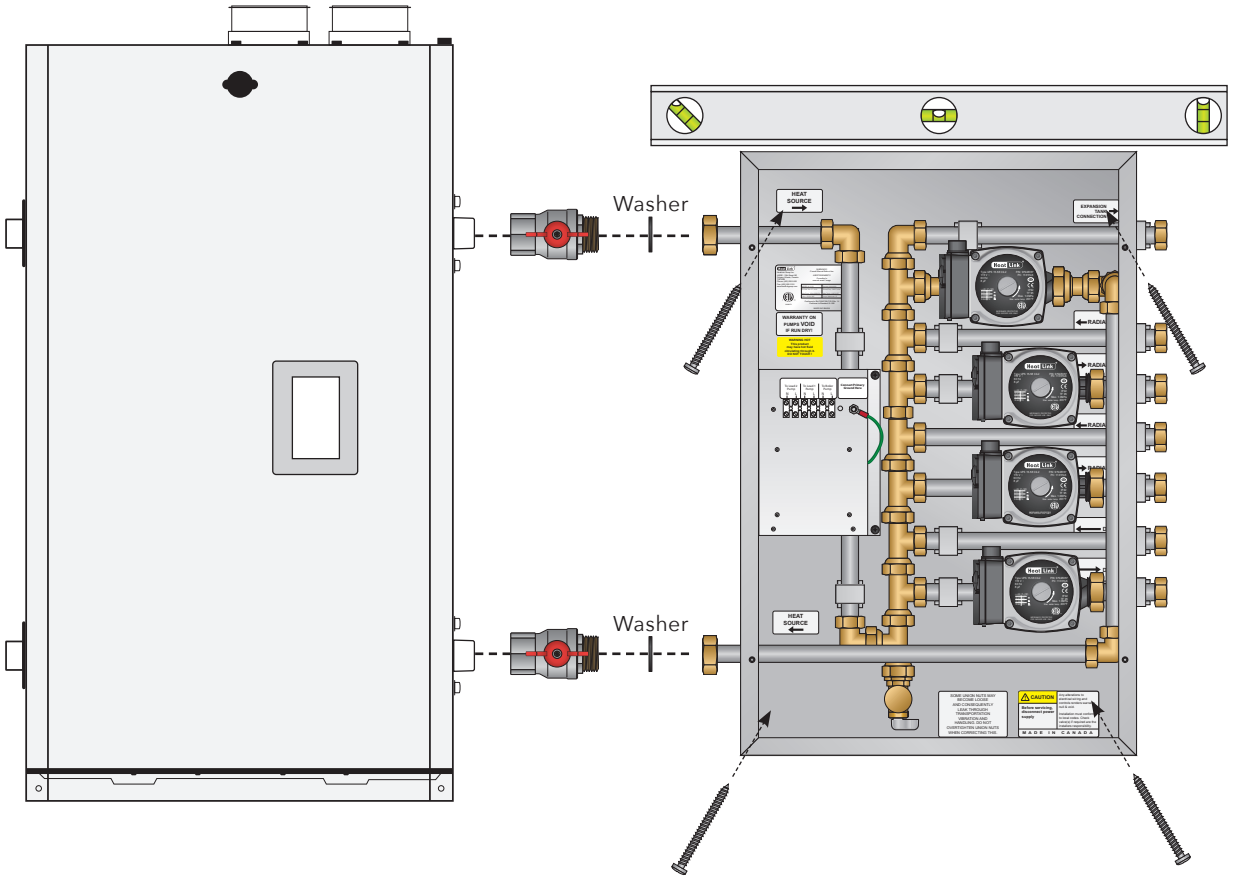
Mount the panel on the right side of the boiler.

Step 1 Install the 1" valve assemblies on the boiler inlet/outlet piping so that the handles can be reached for shut off.

Step 2 Align and level the panel inlet/outlet piping with the boiler outlet/inlet piping.

Step 3 Attach the inlet/outlet of the panel to the valve assemblies using the included 1" washers. Do not overtighten.
Caution: Piping is not intended or able to hold the weight of the panel!

Step 4 Secure the panel in place with supplied screws.



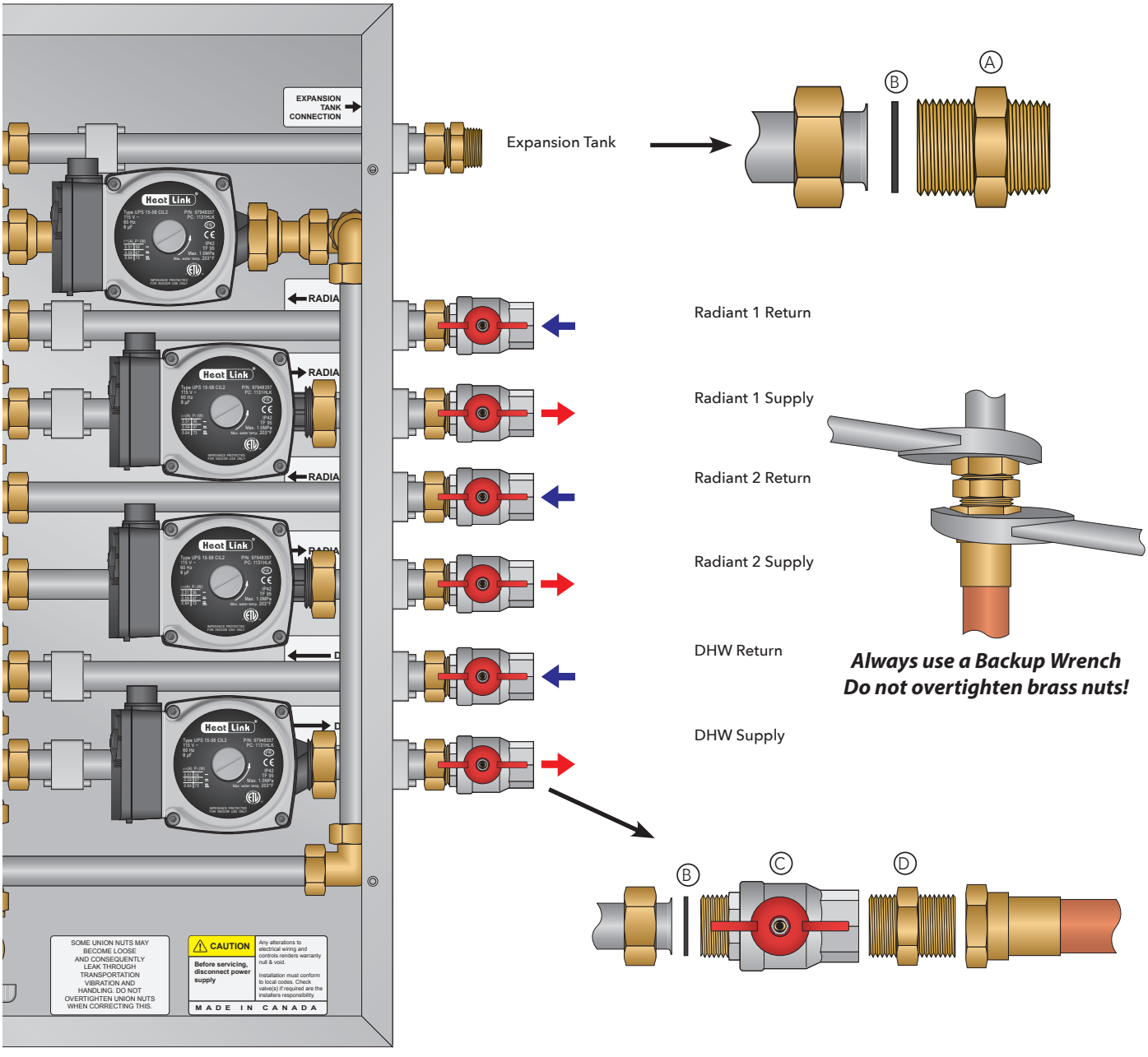
Piping Hookup

With the panel hooked up to the boiler (see page 9) you can now make the rest of the connections. The supplied washers Ⓑ must be used for all panel connections - do not overtighten the panel connections, as this will damage the rubber washers.

You will need 2 x 30mm, or large adjustable (Crescent®) or smooth jaw pipe wrenches to tighten fittings.

Step 1 Connect the MSBPP x MNPT adapter Ⓐ to the expansion tank piping, using the supplied washer.

Step 2 Connect the valves Ⓒ to copper pipe or PEX tubing using a MNPT fitting or adapter Ⓓ, and then to the panel pipework.



Note: Use precautions when soldering or applying heat within 16" of the panel.

Fill And Purge

The following steps are recommended in order to fill the panel with water and purge entrained air once piping is completed, and before activation of the panel.

Note: *Additional purging steps may be required for the rest of the hydronic system.*

Step 1 Ensure the panel is not plugged in.

Step 2 Fully close valves Ⓐ, Ⓑ, Ⓒ, Ⓓ, Ⓔ, Ⓕ and Ⓗ.

Step 3 Attach a fill hose and a purge hose (not included) to the Heating Manifolds connected to valves Ⓒ and Ⓓ .

Step 4 Fill the system.

Step 5 When the water coming out of the purge hose is free of bubbles fully open valves Ⓒ and Ⓓ.

Step 6 When exiting water from manifold is free of bubbles, close valve Ⓒ and Ⓓ.

Step 7 Repeat for valves Ⓔ & Ⓕ.

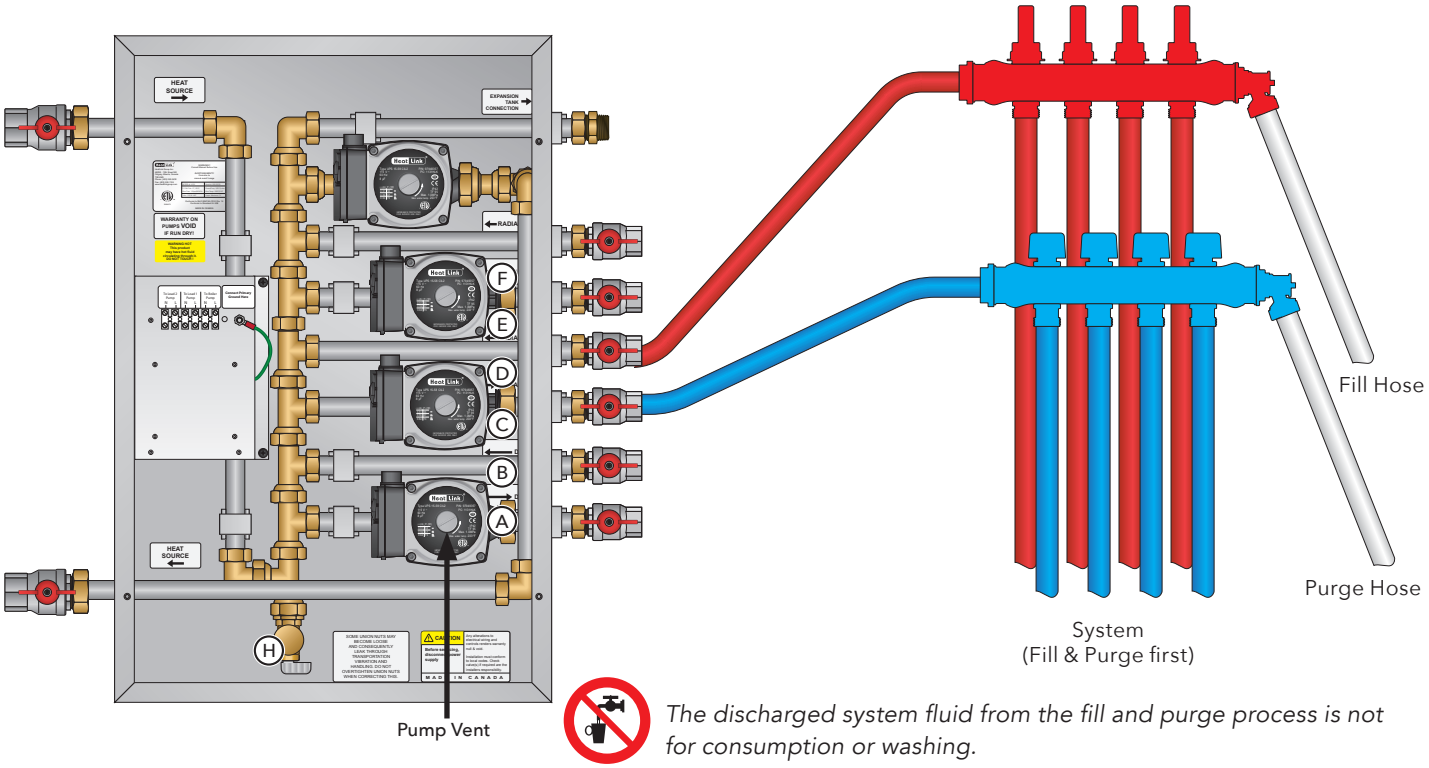
Step 8 Repeat for valves Ⓐ & Ⓑ, and purge from drain point and indirect tank.

Step 9 Remove hoses from manifolds and fully open valves Ⓐ, Ⓑ, Ⓒ, Ⓓ, Ⓔ, and Ⓕ. (Ⓗ Should only be used to drain the panel during maintenance or service.)

Step 10 Vent all pumps (use a large flat head screwdriver to avoid damage to vents) before starting the system.

Step 11 Check for leaks at connections. If any leaks are found, use a back-up wrench and carefully tighten until leak stops. Do not overtighten.

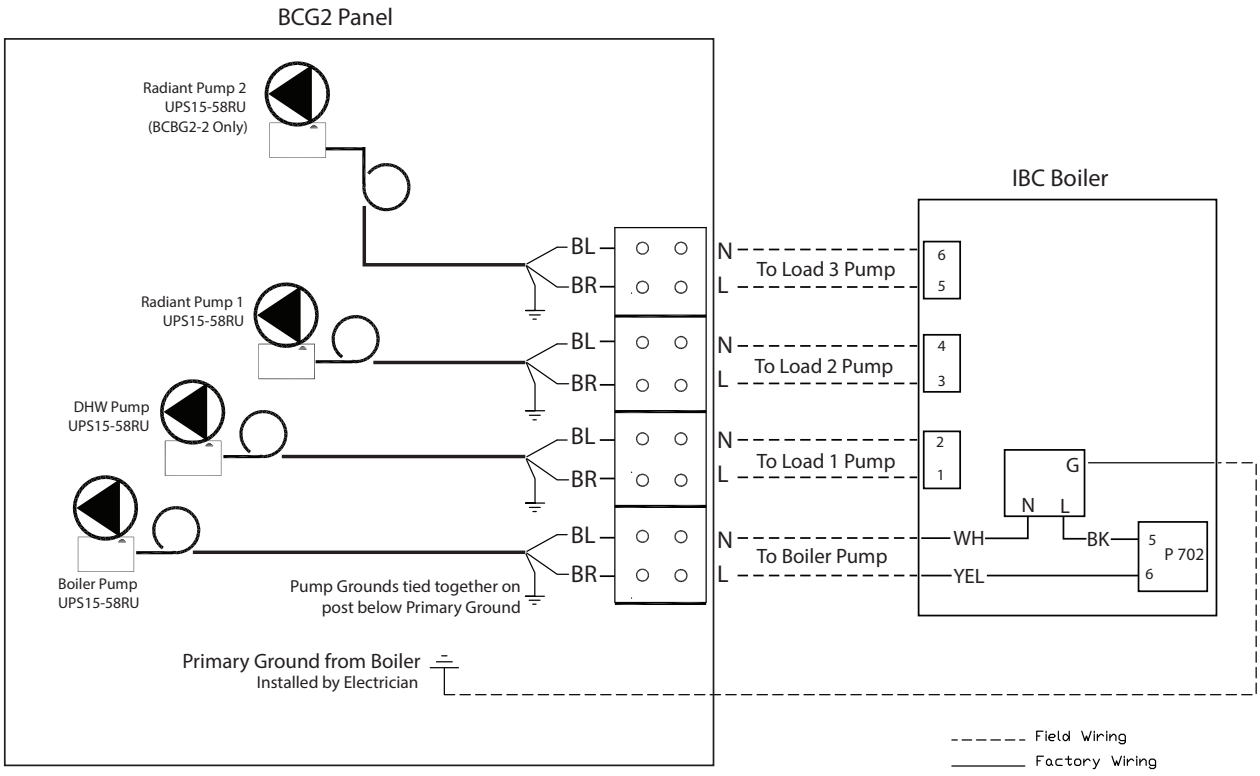
Step 12 Pressurize system to the required operating pressure.



The discharged system fluid from the fill and purge process is not for consumption or washing.

Panel Wiring

The IBC Boiler controls the pump sequence and DHW priority. Wire the panel to the boiler via the terminal strip as per the boiler instructions.



Troubleshooting

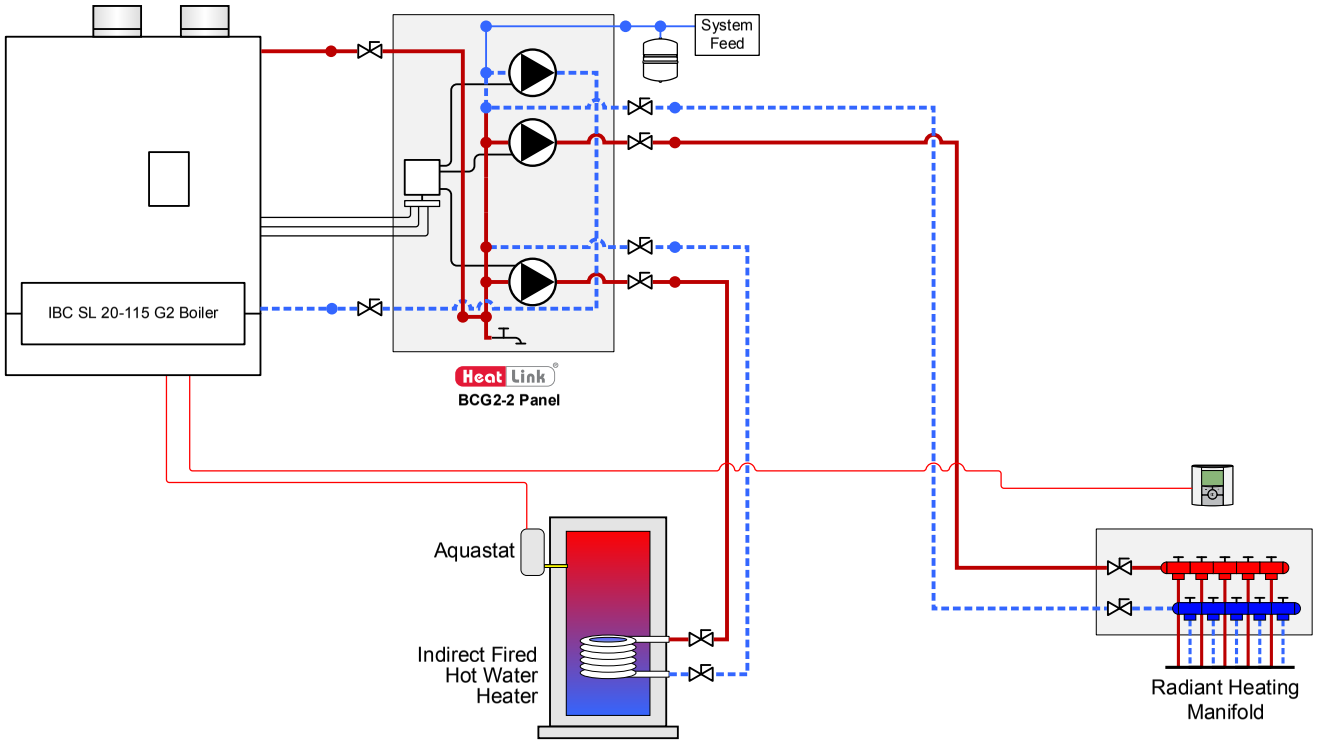
Problem	Check / Verify	Possible Cause
Low Temperature Within Room	Wiring from heat source to panel.	Check that the wiring is done properly. Consult qualified electrician prior to alteration of wiring between heat source and panel.
	Output of heat source is unable to meet demand of heating system.	Compare output of heat source to the requirements of the heating system.
	Circulator is not on during a call for heat. (Use a stethoscope or similar device to verify)	The circulator may be defective.
	When zone valves are installed outside the panel a qualified electrician should verify 24V power is supplied to the actuator.	The 24V transformer may have failed. Any zone valves must be opened manually to avoid dead-heading of the circulator.
High Temperature Within Room	Installed electronic actuators remain open.	An obstruction inside the zone valve is not allowing the actuator to fully close or there is still a call for heat.

Maintenance

Yearly maintenance should be done on the panel prior to each heating season to ensure the efficient and accurate operation of the panel.
Complete the following check list:

- Raise all thermostats to cause a call for heat within the system. Verify that the circulator starts, via a stethoscope or similar device.
- Return all thermostats to a desirable setting.

You are now ready for another heating season with HeatLink.



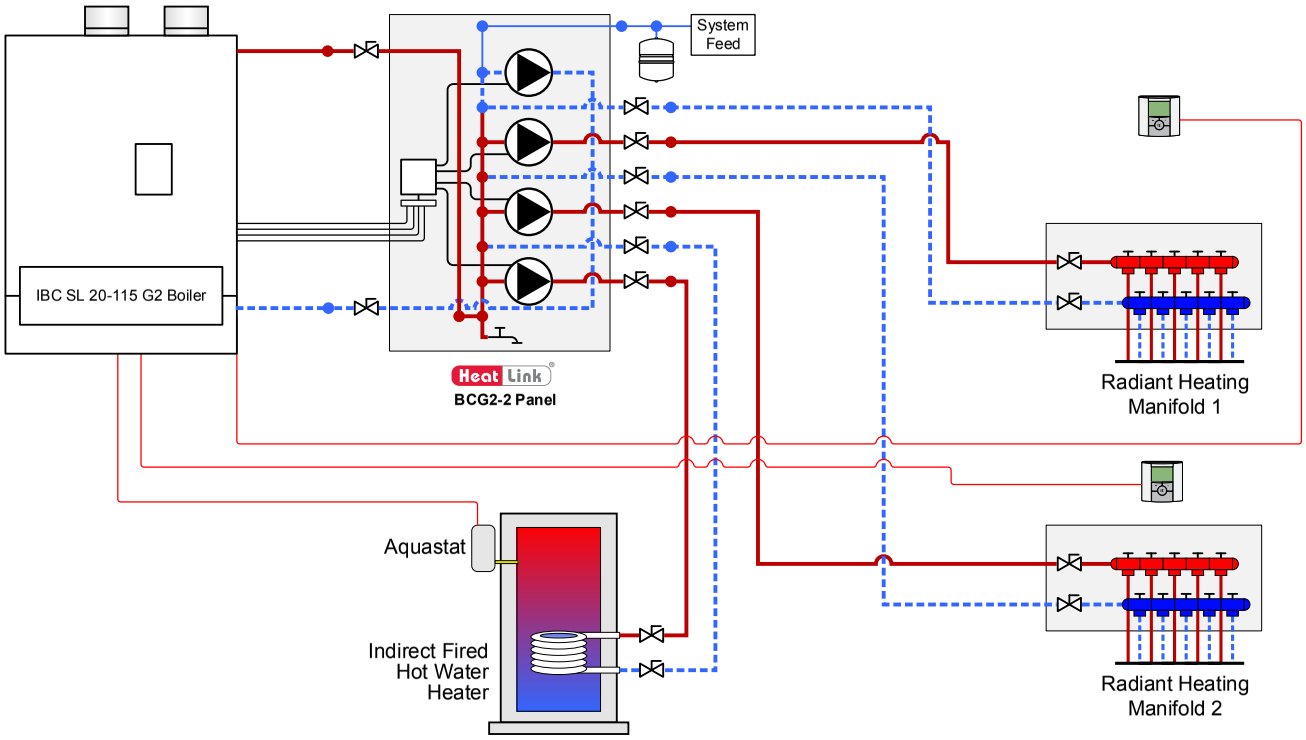
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1-866-661-5332

Notes:
- Drawings are for HeatLink suggested system layout only! User must determine if system layout will work for their particular application.
- Air vents, expansion tanks, pressure relief valves, etc. for heat source as per local codes.
- Use isolation ball valves for all circuits and components.
- Local codes, regulations, and authorities have final jurisdiction.

Heat Source: IBC SL20-115 G2
Panel(s): BCG2
Heat Load(s): IFHWH, Radiant Heating

Date: 2015-09-02

Schematic #: **SCH-BCG2-M001**
Rough-in wiring see: SCH-MRIB-R001
Wiring detail see:



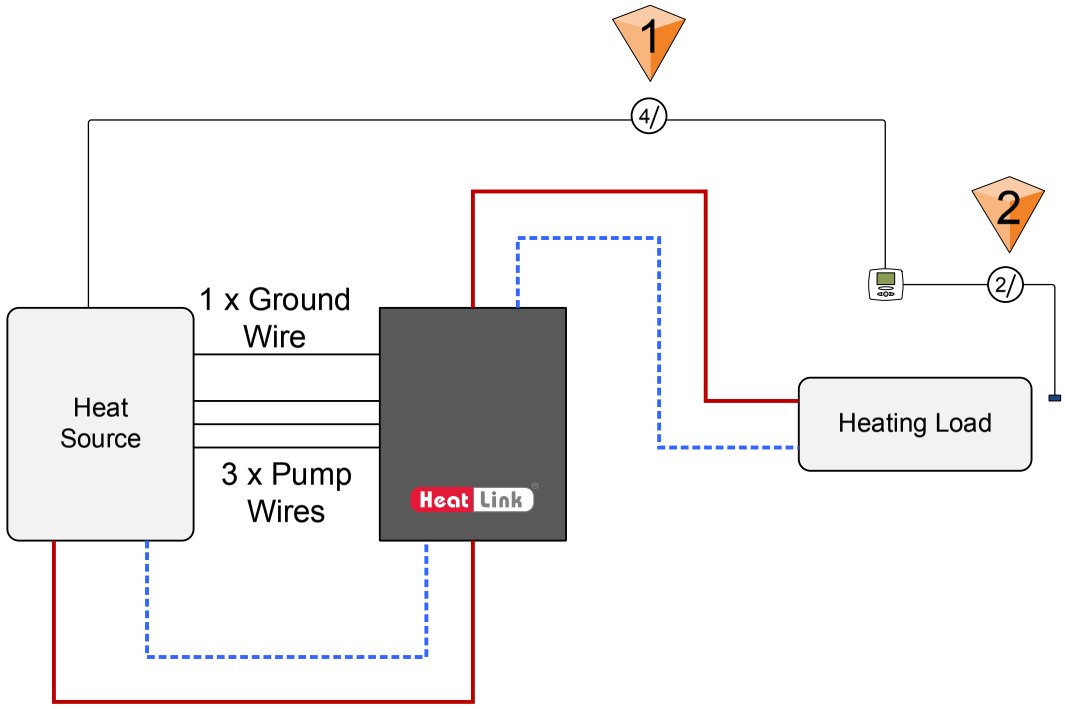
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Notes:
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- Air vents, expansion tanks, pressure relief valves, etc. for heat source as per local codes.
- Use isolation ball valves for all circuits and components.
- Local codes, regulations, and authorities have final jurisdiction.

Heat Source: IBC SL20-115 G2
Panel(s): BCG2-2
Heat Load(s): IFHWH, Radiant Heating

Date: 2015-09-02

Schematic #: **SCH-BCG2-M002**
Rough-in wiring see: SCH-MRIB-R001
Wiring detail see:



1 **Room Thermostat**
Standard 4-wire to be run from thermostat to mechanical room.

2 **Floor Sensor (optional)**
Standard 2-wire to be run from thermostat to floor sensor.

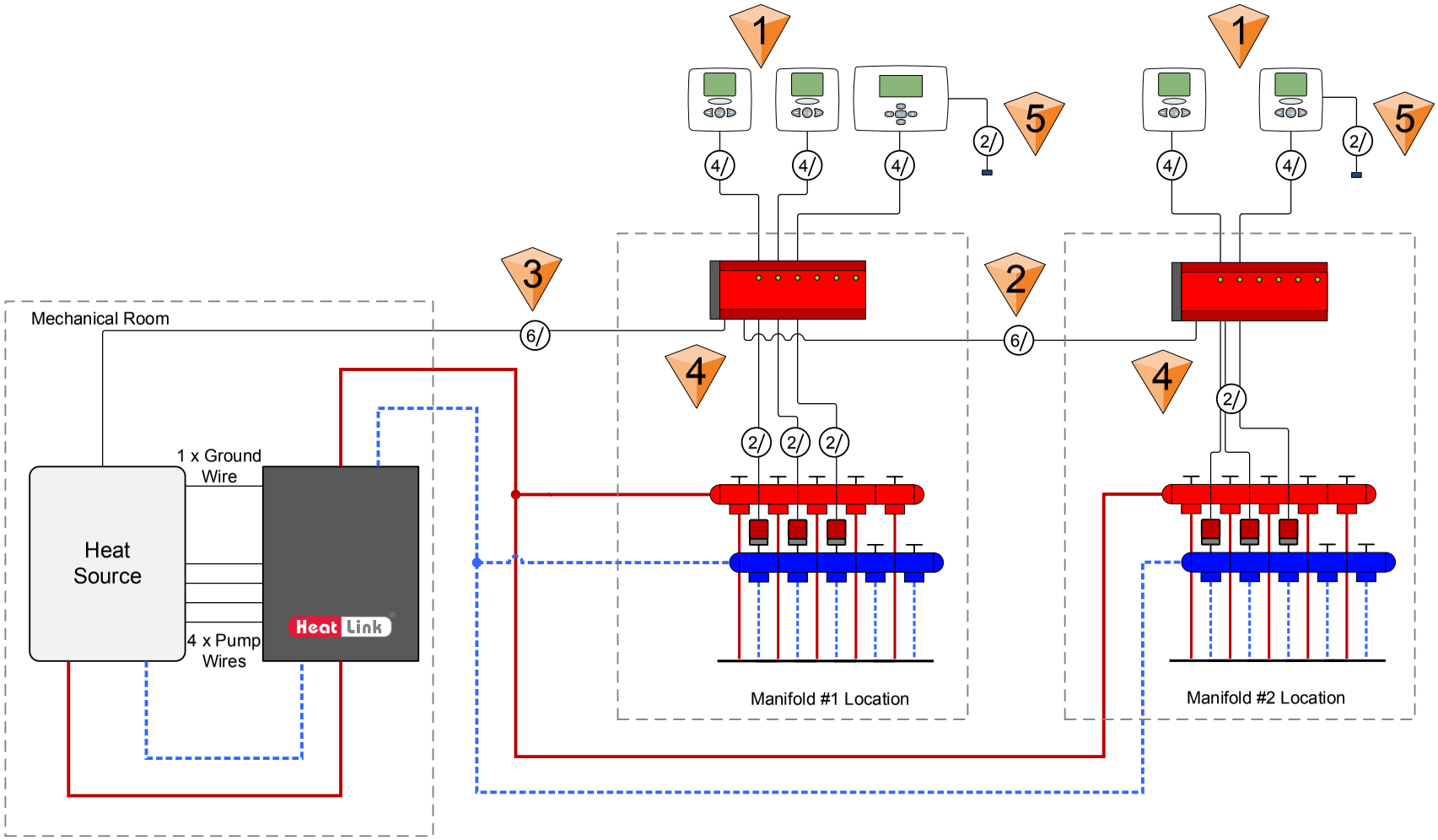
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Notes:
- Drawings are for HeatLink suggested electrical schematics only! User must determine if electrical schematic will work for their particular application. User must also confirm all HeatLink schematics with manufacturer schematics of each particular control chosen.
- In all cases manufacturer equipment schematics will take precedence over HeatLink electrical schematics.
- Local codes, regulations, and authorities have final jurisdiction.

Application: Rough-in Wiring for BCG2-1 One Zone Heating

Schematic #: **SCH-MRIB-R001 BCG2**

Date: 2015-09-16



1 **Room Thermostats**
Standard 4-wire to be run from each zone back to the corresponding manifold location.

2 **6-wire Jumper**
6-wire to be run between each manifold location. This allows for the transfer of the clock signal, heat demand information, and power from module to module.

3 **6-wire Jumper**
6-wire to be run from the last manifold location to the mechanical room. This allows for the transfer of the clock signal, heat demand information, and power.

4 **Optional**
Allow for 110V power source to a 24V transformer at each manifold location instead of supplying 24V power from the mechanical room.

5 **Floor Sensor (optional)**
Standard 2-wire to be run from thermostat to floor sensor.

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Notes:
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- In all cases manufacturer equipment schematics will take precedence over HeatLink electrical schematics.
- Local codes, regulations, and authorities have final jurisdiction.

Application: Rough-in Wiring for BCG2-2 Multiple Zone Heating with StatLink

Schematic #: **SCH-MRIB-R002 BCG2-2**

Date: 2015-09-16



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