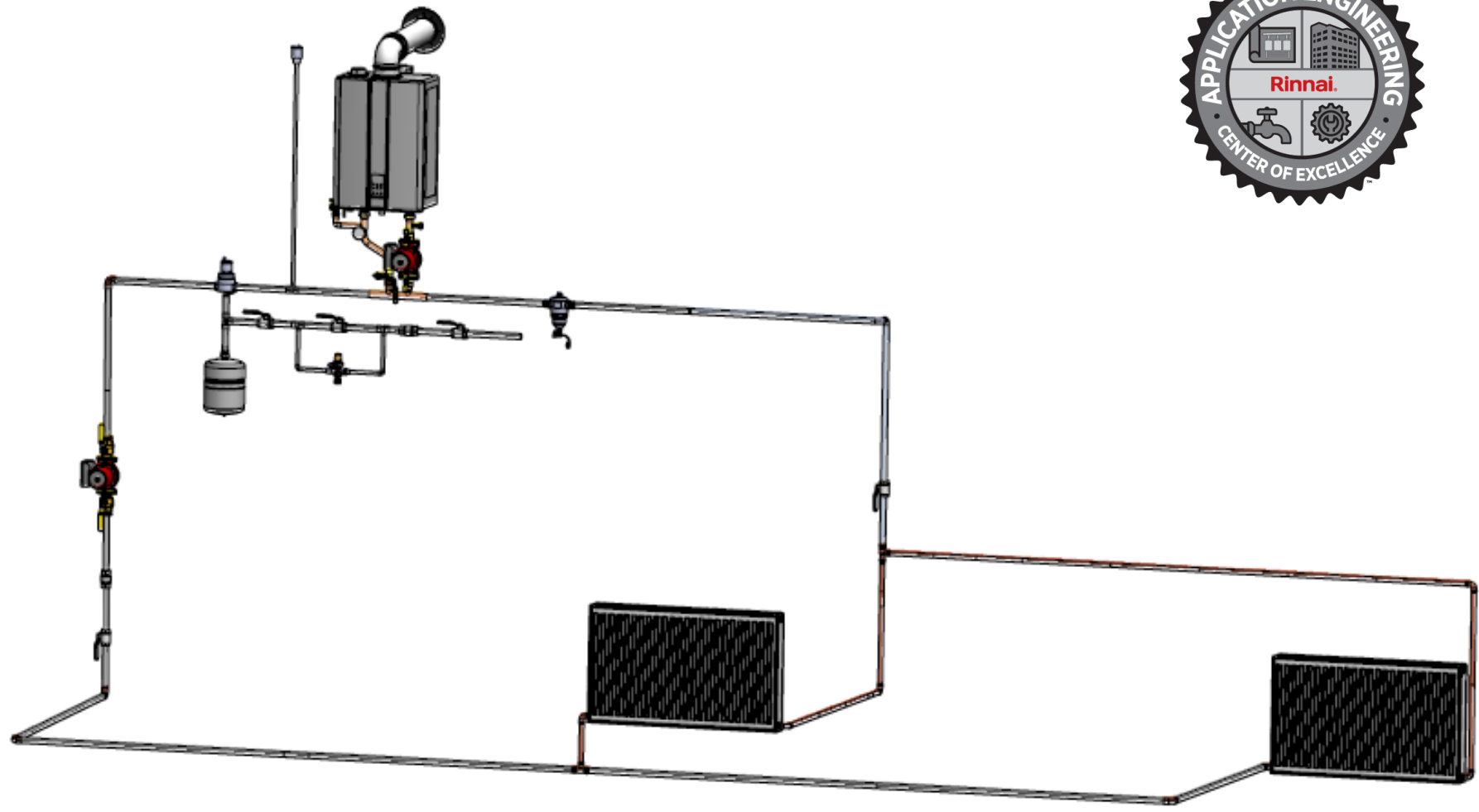




I-Series System Application Drawings

For Rinnai I-Series Condensing Boilers



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Overview

About this Document

This document contains application engineering drawings for the Rinnai I-Series Condensing Boiler. For more information on the I-Series Condensing Boiler, visit rinnai.us.

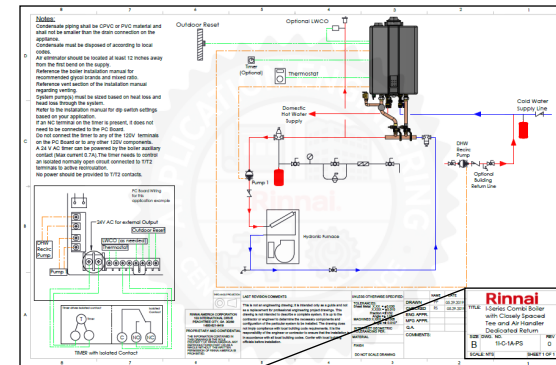
Abbreviations

Listed below are abbreviations used throughout this document.

A	Air Handler
B	Baseboard
BR	Baseboard and Radiant
ST	Buffer Tank
CR	Cast Iron Radiator
C	Combi
CM	Crossover Mode
HX	Heat Exchanger
I	Indirect Tank
LLH	Low Loss Header
XX	Zone Not Specified
O	Oxygen Permeable Piping
PR	Panel Radiator
P	Pool Heating
PS	Primary/Secondary
R	Radiant
S	Solo
SH	Space Heating
SM	Snow Melt
ZV	Zone Valve

Engineering Drawing Overview

The bottom, right corner of each drawing contains document information such as title, drawing number, revision, total number of sheets, and more.



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TITLE:
I-Series Solo Boiler with Closely Spaced Tee-Radiant and Baseboard

SIZE B	DWG. NO. 1I-S-2BR-PS	REV 0
SCALE: NTS		SHEET 1 OF 1

Contact

For questions about this document, contact Rinnai's Application Engineering Center of Excellence:

- Phone: 1-800-621-9419
- E-mail: engineering@rinnai.us

Drawing Number Nomenclature

Boiler Drawing Number

Example:
11-S-2BR-PS



1 I - S - 2 BR - PS

Number of Boilers
(1, 2, 3, or 4)

Boiler Series
(I = I-Series)

Boiler Type

- C = Combi
- S = Solo

Number of Zones
(1, 2, 3, or 4)

Zone Description

- A = Air Handler
- B = Baseboard
- BR = Baseboard and Radiant
- CM = Crossover Mode
- CR = Cast Iron Radiator
- HX = Heat Exchanger
- I = Indirect Tank
- O = Oxygen Permeable Piping
- P = Pool Heating
- PR = Panel Radiator
- R = Radiant
- SH = Space Heating
- SM = Snow Melt
- ST = Buffer Tank
- XX = Zone Not Specified
- ZP = Zone Pump
- ZV = Zone Valve

Hydraulic Separation Method

- LLH = Low Loss Header
- PS = Primary/Secondary

Wiring Drawing Number

Example:
IIW-2S-2ZP-I



I W - 2 S - 2 ZP - I

Boiler Series
(I = I-Series)

W = Wiring Diagram

Number of Boilers
(1, 2, 3, or 4)

Boiler Type

- C = Combi
- S = Solo

Number of Zones
(1, 2, 3, or 4)

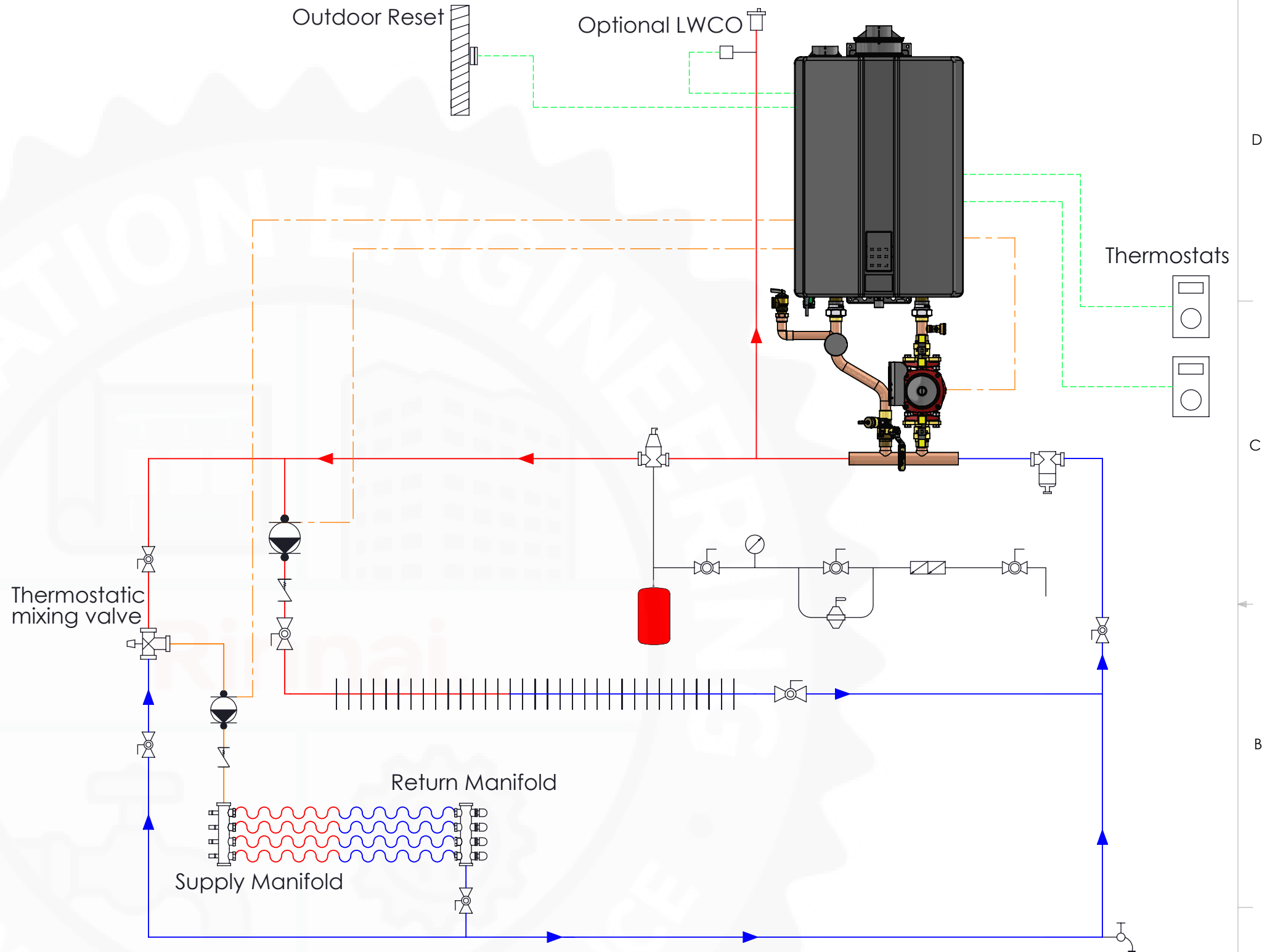
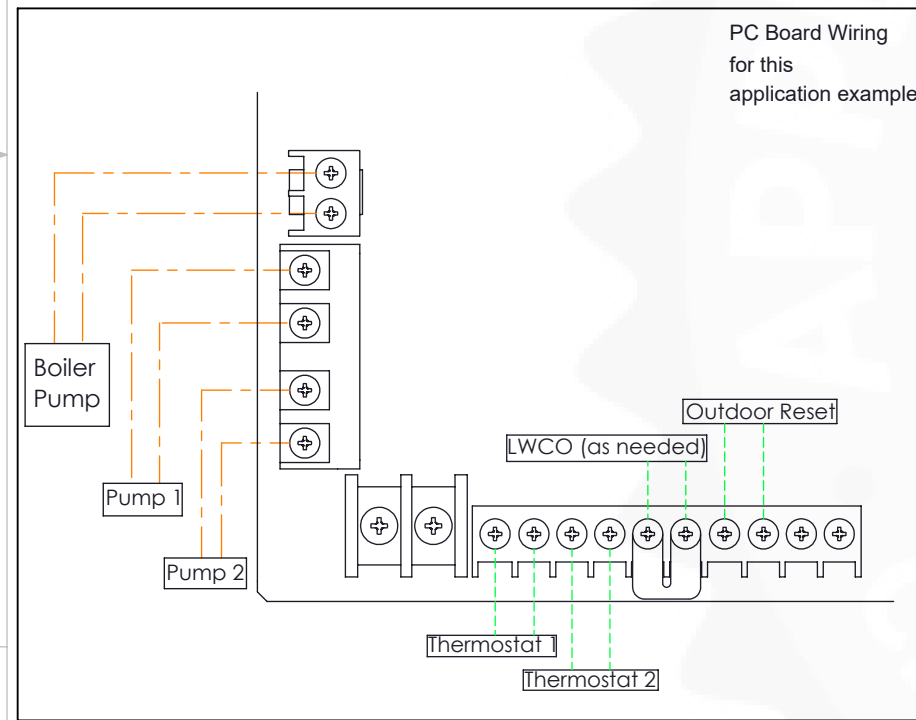
Zone Description

- I = Indirect Tank
- SH = Space Heating
- ZP = Zone Pump
- ZV = Zone Valve

I = Indirect Tank (Optional)

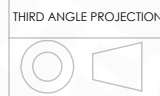
Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI



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MACHINED X.XXX = ±0.005
Angle = ± 0.010°

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MFG APPR.		
Q.A.		
COMMENTS:		

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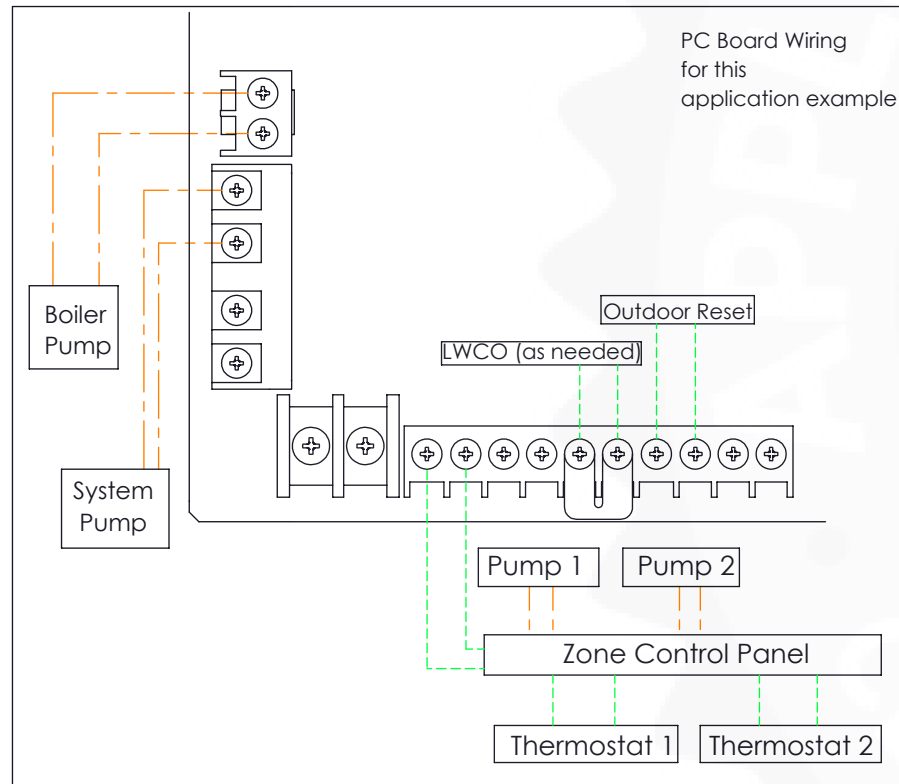
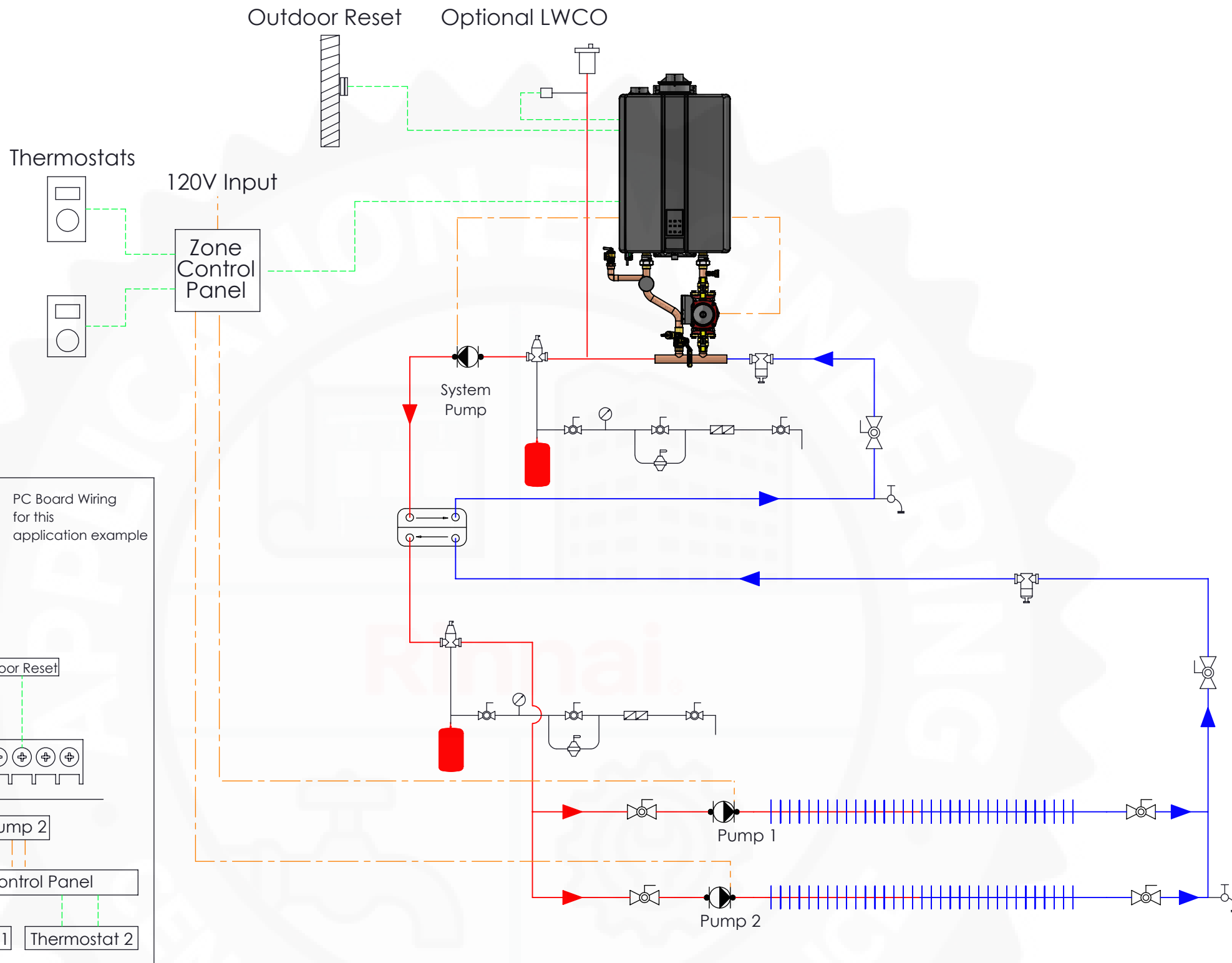
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SIZE	DWG. NO.	REV
B	1I-S-2BR-PS	0

SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.



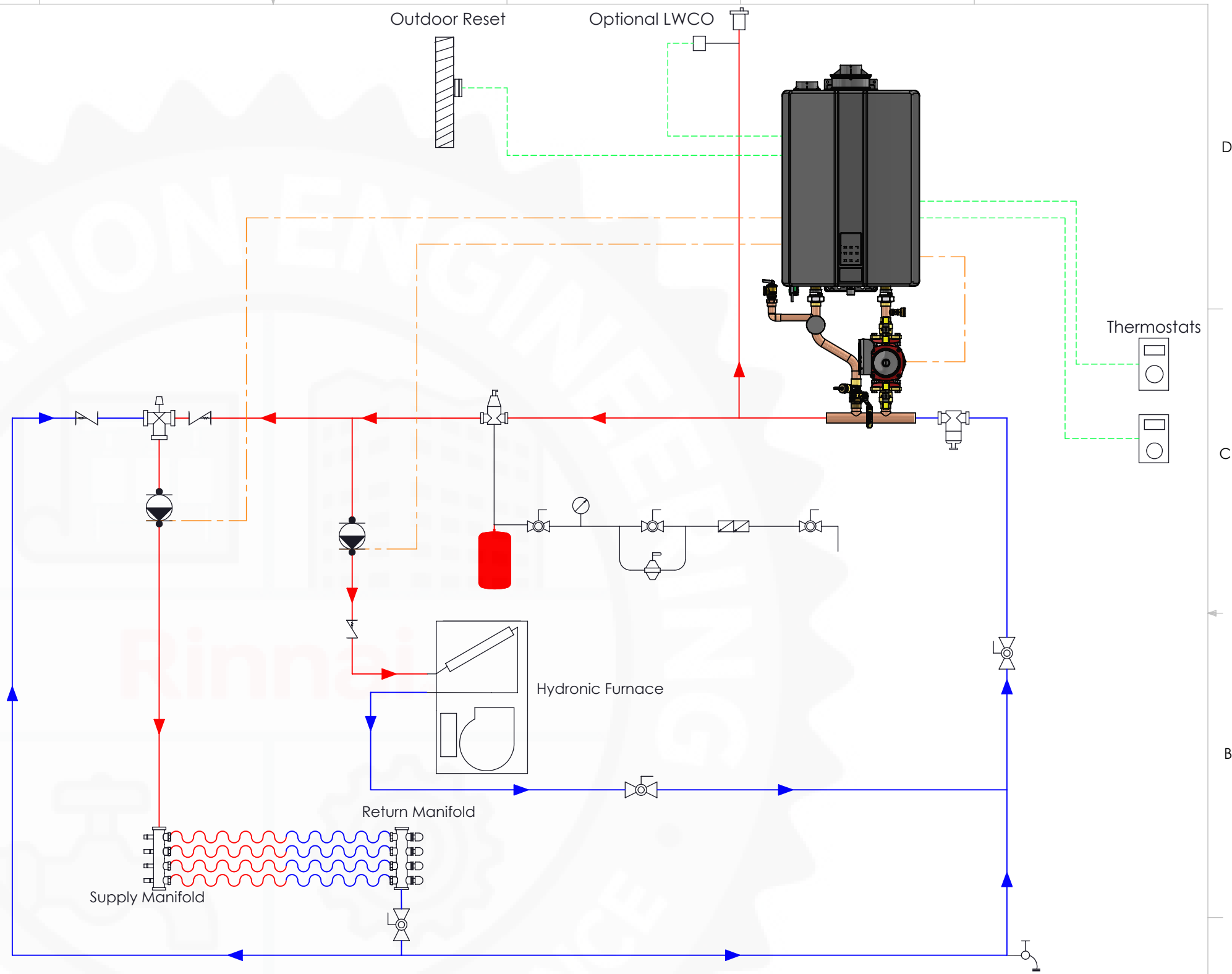
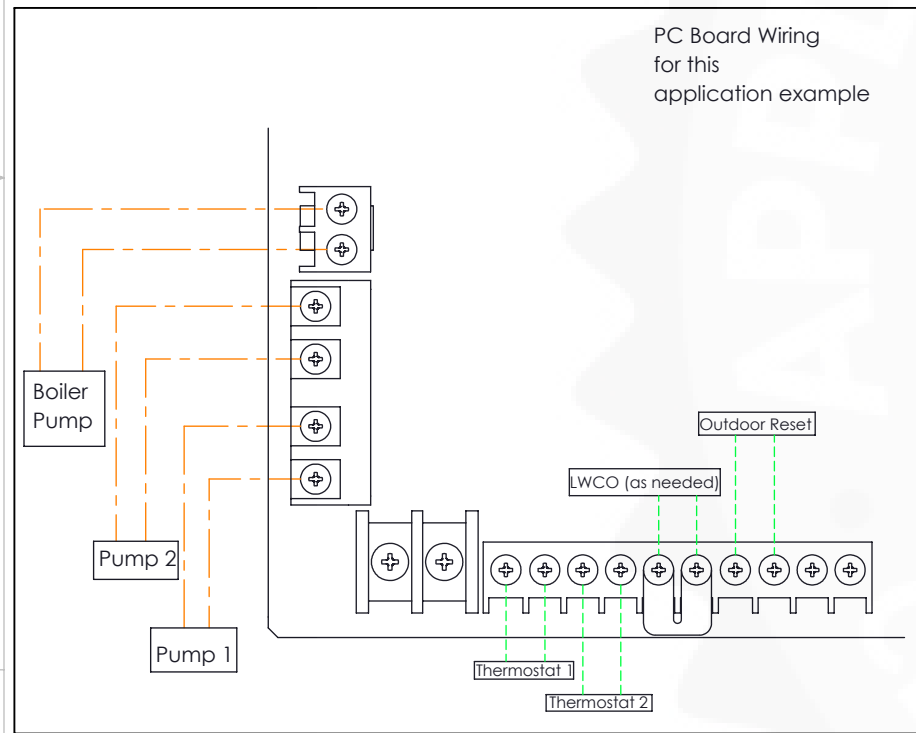
Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

<p>THIRD ANGLE PROJECTION</p>	<p>LAST REVISION COMMENTS</p> <p>This is not an engineering drawing; it is intended only as a guide and not as a replacement for professional engineering project drawings. This drawing is not intended to describe a complete system. It is up to the contractor or engineer to determine the necessary components and configuration of the particular system to be installed. The drawing does not imply compliance with local building code requirements. It is the responsibility of the engineer or contractor to ensure that the installation is in accordance with all local building codes. Confer with local building officials before installation.</p>	<p>UNLESS OTHERWISE SPECIFIED:</p> <p>TOLERANCES: Sheet Metal X.XX = ±0.030 X.XXX = ±0.010 Fraction = ±1/32 Angle = ± 1.0° MACHINED X.XXX = ±0.005 Angle = ± 0.010°</p> <p>INTERPRET GEOMETRIC TOLERANCING PER:</p> <p>MATERIAL</p> <p>FINISH</p> <p>DO NOT SCALE DRAWING</p>	<p>NAME</p> <p>DATE</p>	<p>Rinnai</p> <p>TITLE: I-Series Solo Boiler-Oxygen Permeable Piping with System Separation</p>
			<p>DRAWN PP 05.29.2019</p> <p>CHECKED RS 05.29.2019</p> <p>ENG APPR.</p> <p>MFG APPR.</p> <p>Q.A.</p> <p>COMMENTS:</p>	

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

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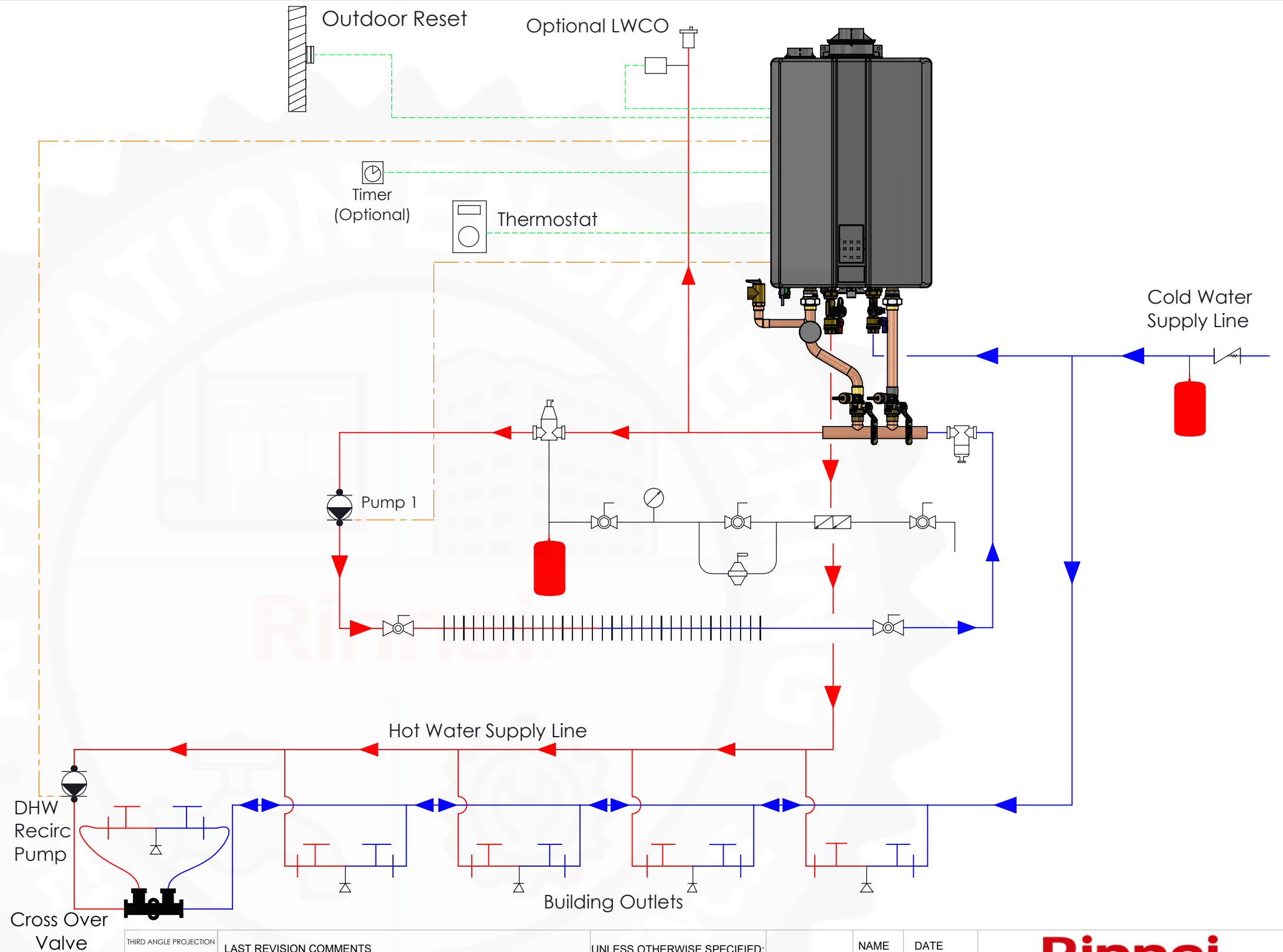
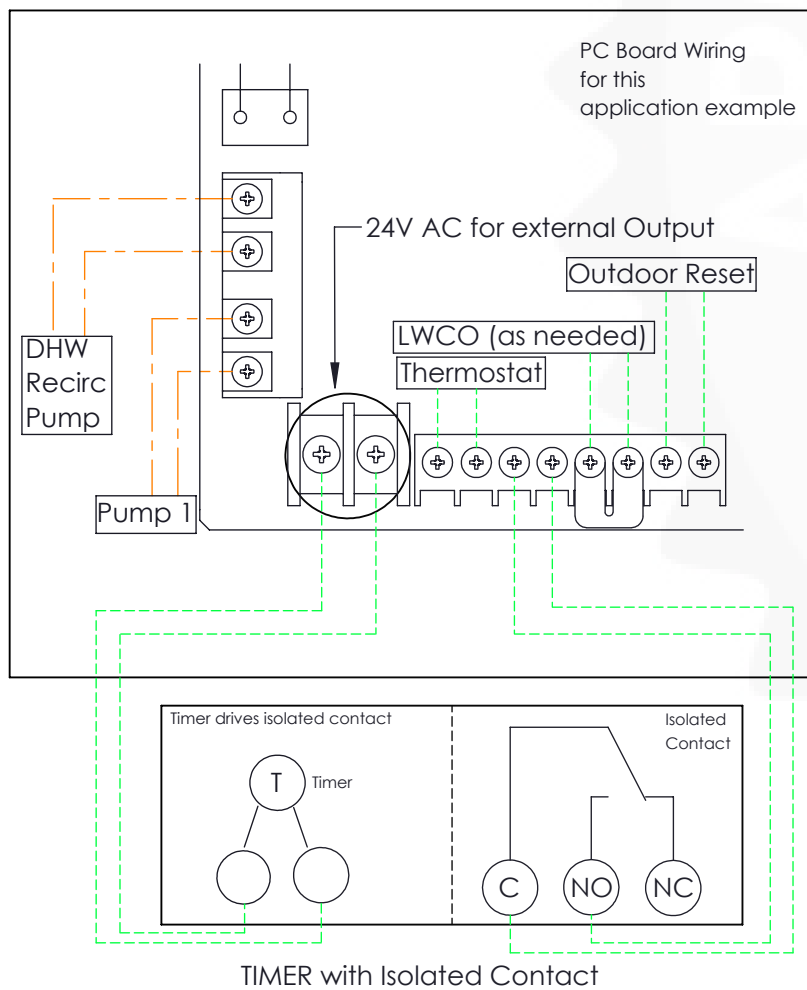
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TITLE: I-Series Solo Boiler with Closely Spaced Tee - Air Handler and Radiant Floor Heating

SIZE DWG. NO. REV
B 1I-S-2AR-PS 0

SCALE: NTS SHEET 1 OF 1

Notes:
 Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
 Condensate must be disposed of according to local codes.
 Air eliminator should be located at least 12 inches away from the first bend on the supply.
 Reference the boiler installation manual for recommended glycol brands and mixed ratio.
 Reference vent section of the installation manual regarding venting.
 System pump(s) must be sized based on heat loss and head loss through the system.
 Refer to the installation manual for dip switch settings based on your application.
 If an NC terminal on the timer is present, it does not need to be connected to the PC Board.
 Do not connect the timer to any of the 120V terminals on the PC Board or to any other 120V components.
 A 24 V AC timer can be powered by the boiler auxiliary contact (Max current 0.7A). The timer needs to control an isolated normally open circuit connected to T/T2 terminals to active recirculation.
 No power should be provided to T/T2 contacts.



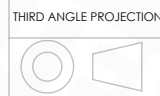
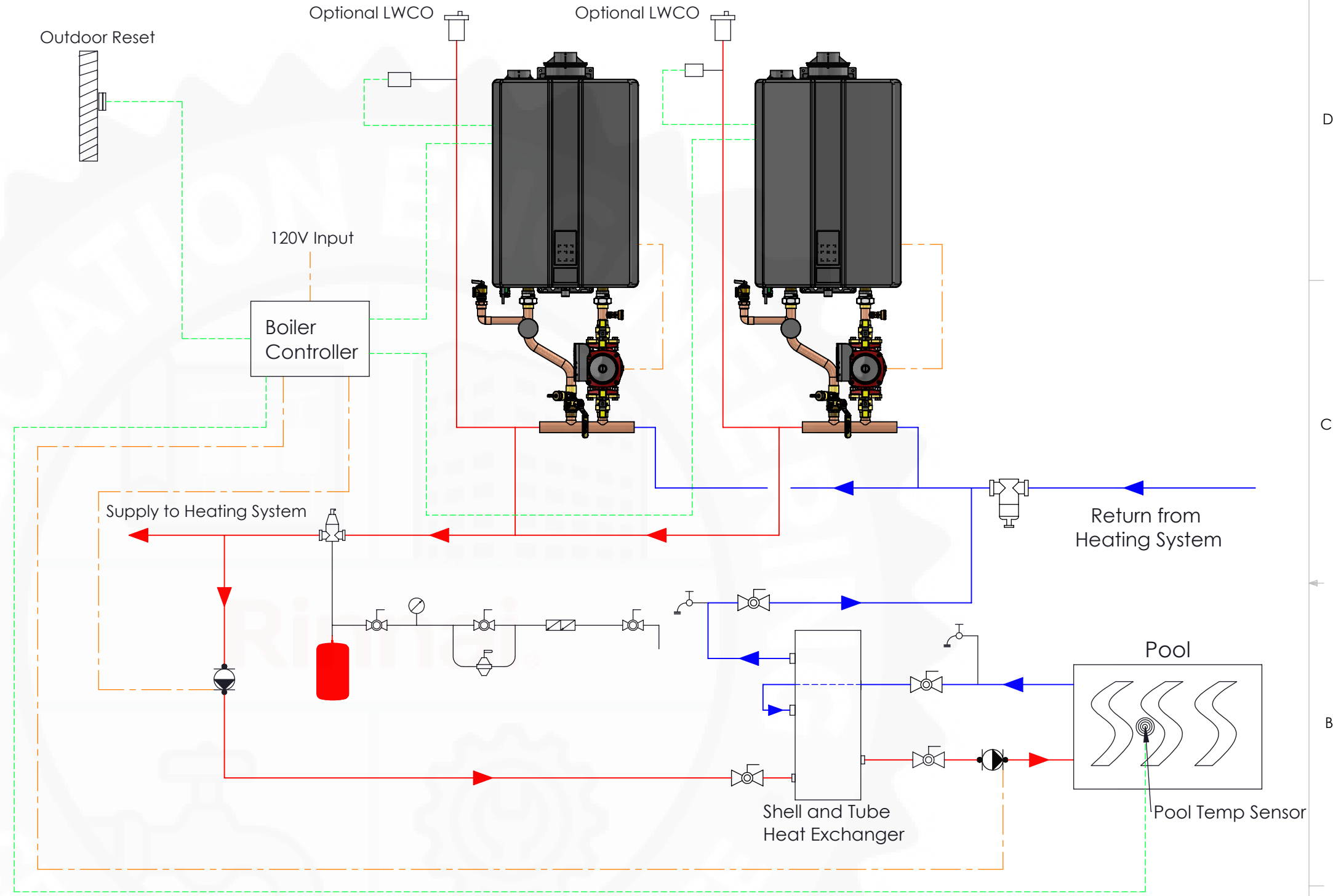
<p>THIRD ANGLE PROJECTION</p>	LAST REVISION COMMENTS		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	
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				COMMENTS:			
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				SIZE DWG. NO.		REV	
				B 11-C-1B-PS-CM		0	
				SCALE: NTS		SHEET 1 OF 1	

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TITLE: I-Series Combi Boiler with Closely Spaced Tee and Baseboard - Cross Over Mode
 SIZE DWG. NO. REV
 B 11-C-1B-PS-CM 0
 SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- Reference third party boiler controller for the wiring diagrams.
- System pump(s) must be sized based on heat loss and head loss through the system.



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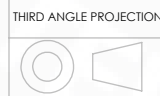
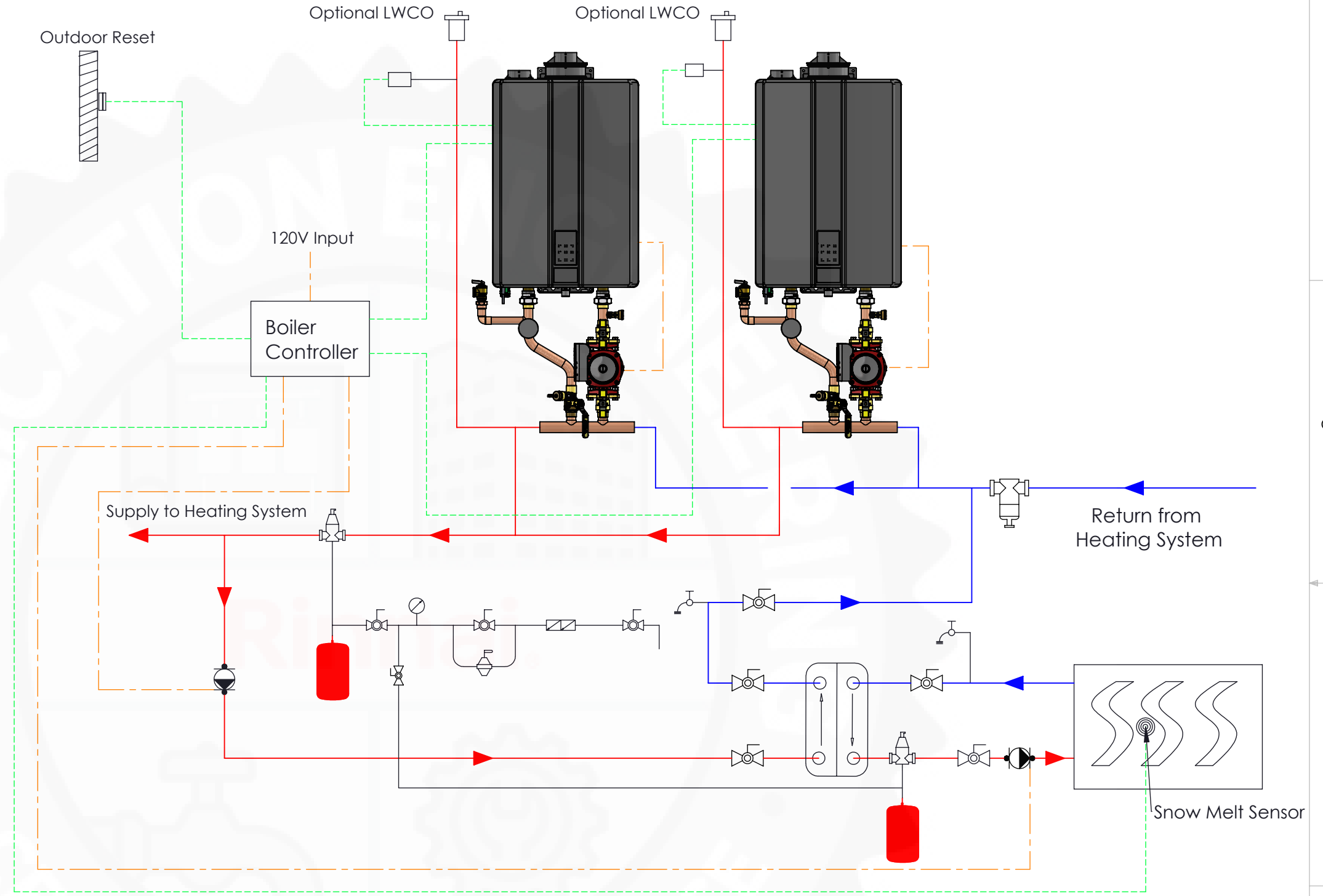
TITLE: Two I-Series Solo Boilers with Pool Heating

SIZE	DWG. NO.	REV
B	2I-S-1PHX-PS	0

SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- Reference third party boiler controller for the wiring diagrams.



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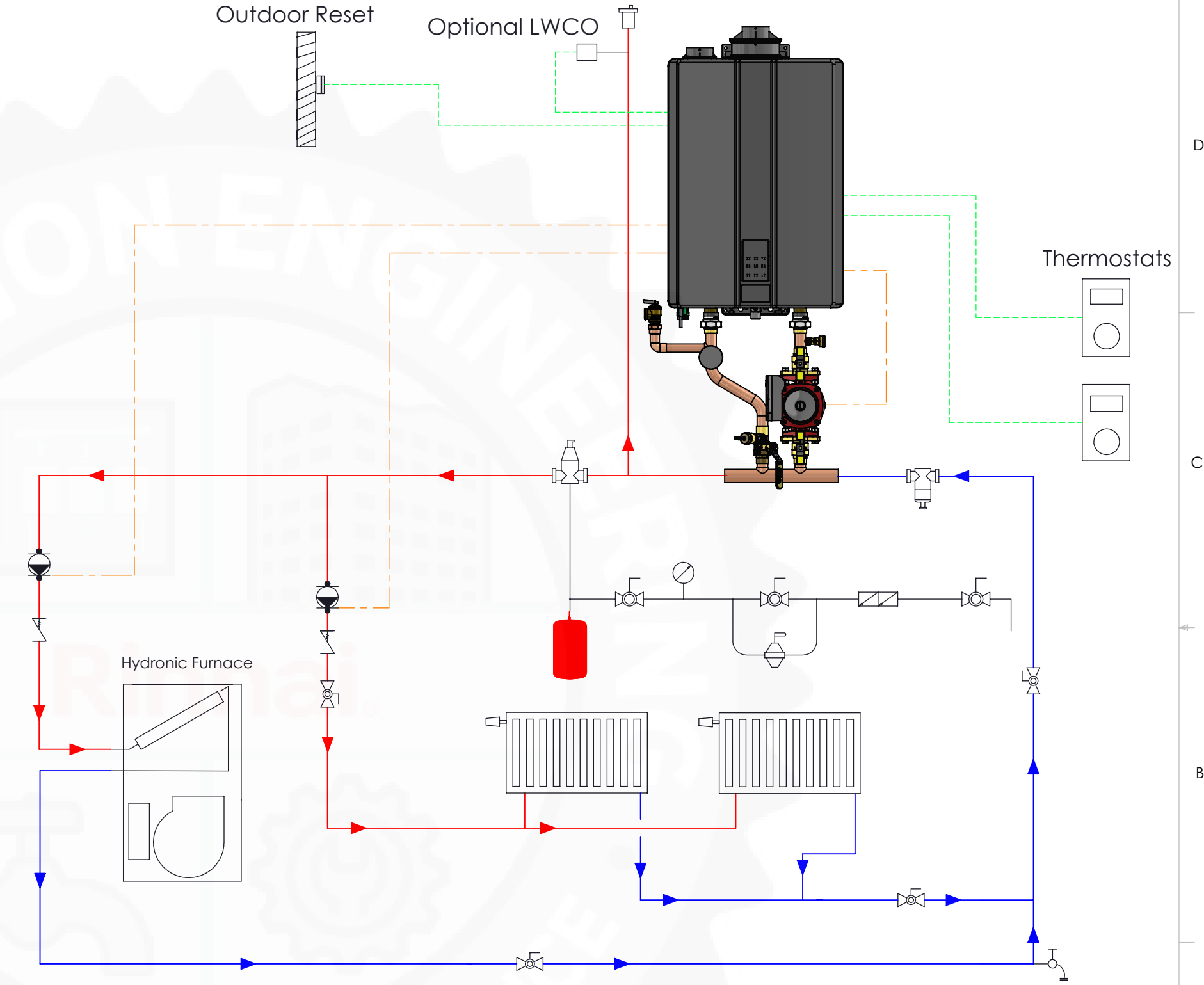
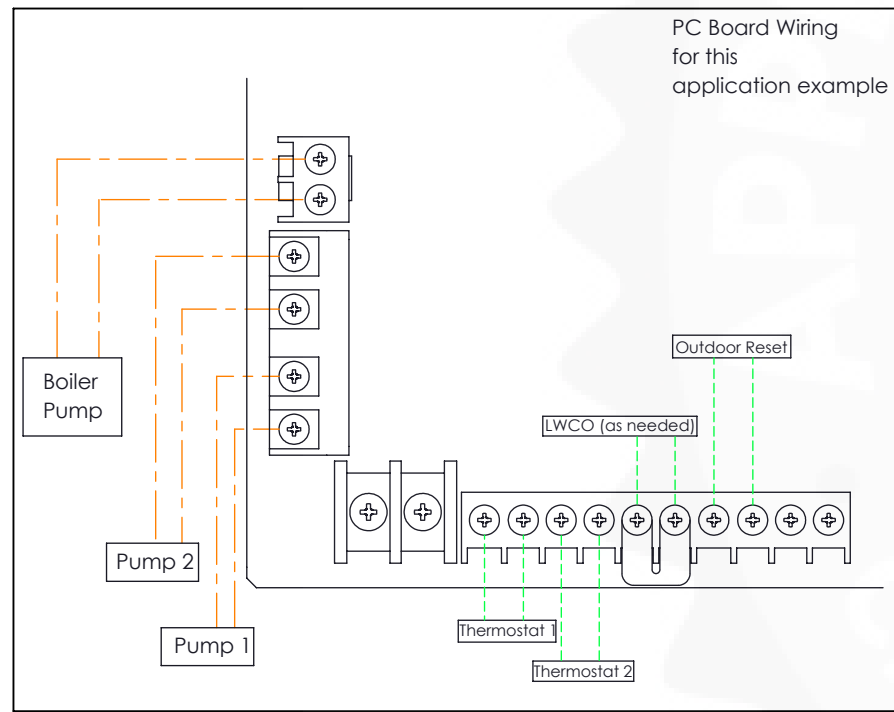
TITLE: Two I-Series Solo Boilers with Snow Melt System

SIZE	DWG. NO.	REV
B	2I-S-1SmHX-PS	0

SCALE: NTS SHEET 1 OF 1

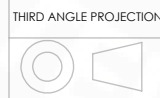
Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI



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MATERIAL

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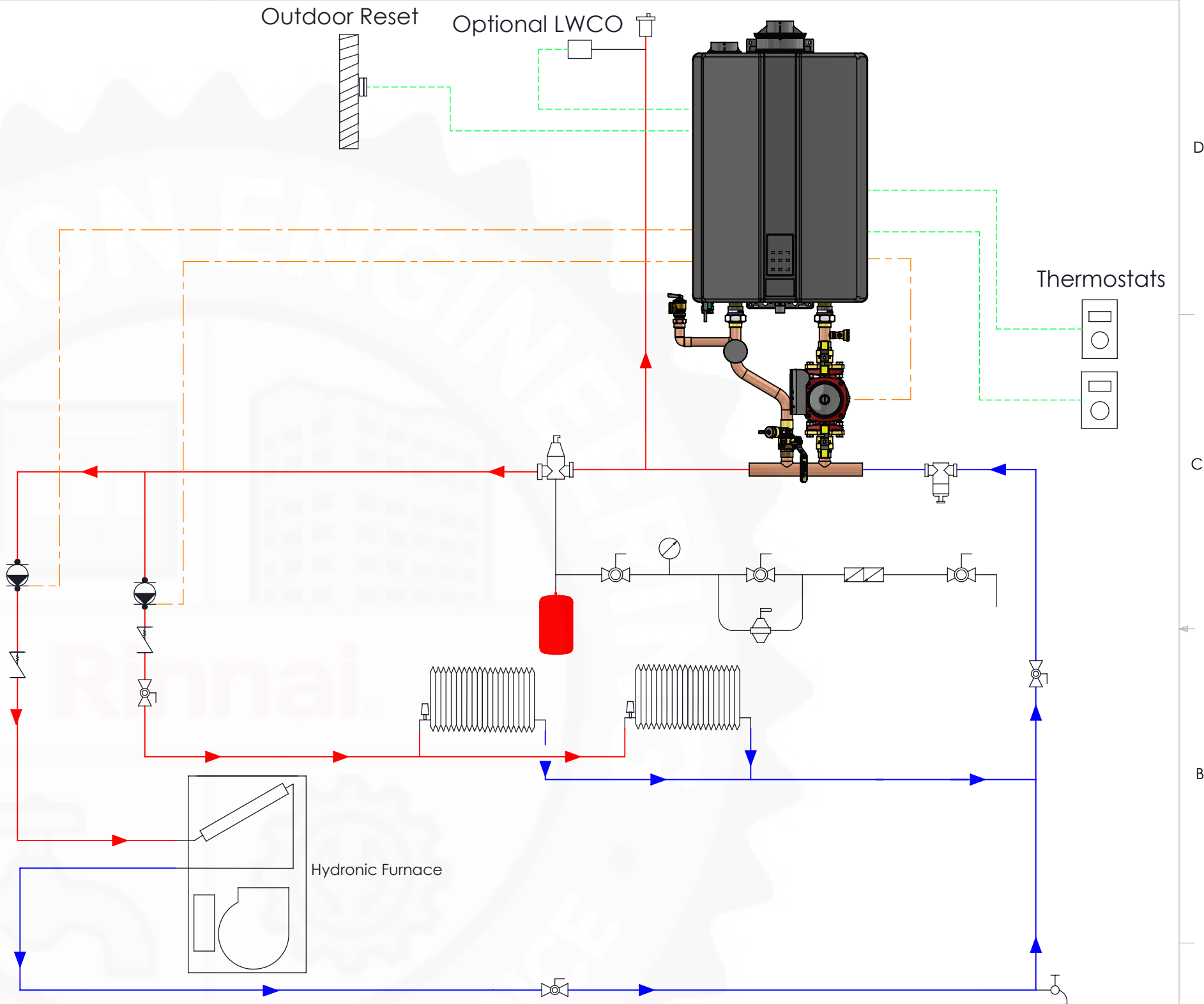
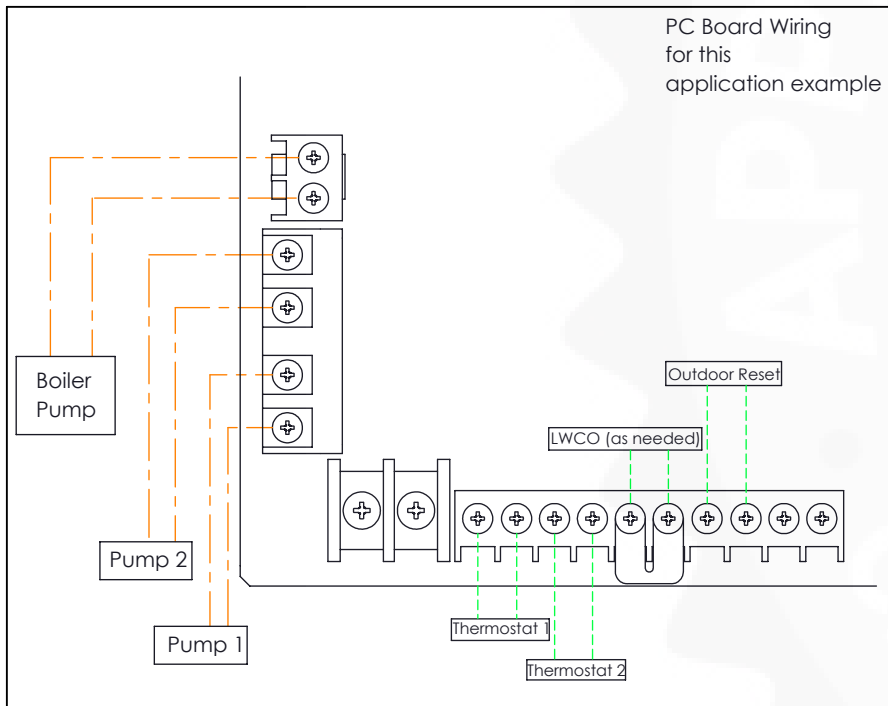
TITLE: I-Series Solo Boiler with Closely Spaced Tee - Air Handler and Panel Radiator

SIZE DWG. NO. REV
B 11-S-2APR-PS 0

SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

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UNLESS OTHERWISE SPECIFIED:

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X.XXX = ±0.010
Fraction = ±1/32
Angle = ± 1.0°
MACHINED X.XXX = ±0.005
Angle = ± 0.010°

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

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	NAME	DATE
DRAWN	PP	05.29.2019
CHECKED	RS	05.29.2019
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

Rinnai

TITLE: I-Series Solo Boiler with Closely Spaced Tee - Air Handler and Cast Iron Radiators

SIZE DWG. NO. REV
B 11-S-2ACR-PS 0

SCALE: NTS SHEET 1 OF 1

Notes:

Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.

Condensate must be disposed of according to local codes.

Air eliminator should be located at least 12 inches away from the first bend on the supply.

Reference the boiler installation manual for recommended glycol brands and mixed ratio.

Reference vent section of the installation manual regarding venting.

System pump(s) must be sized based on heat loss and head loss through the system.

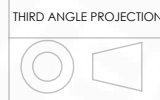
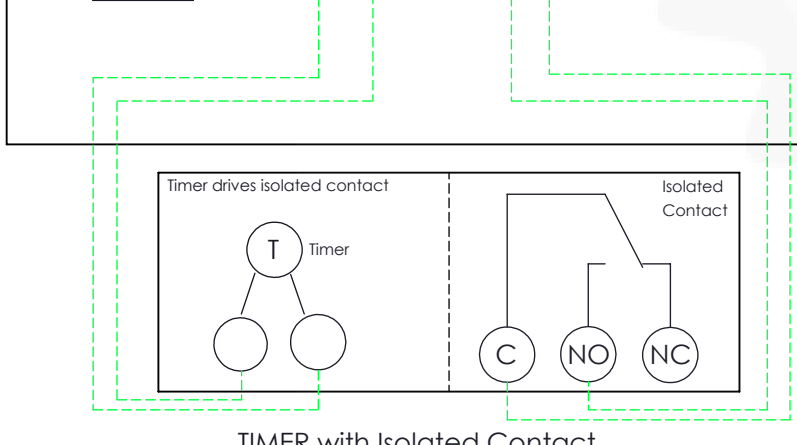
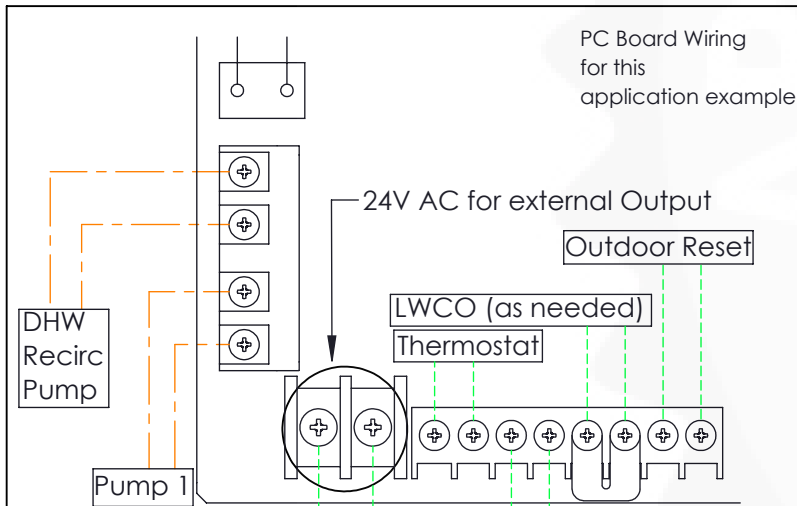
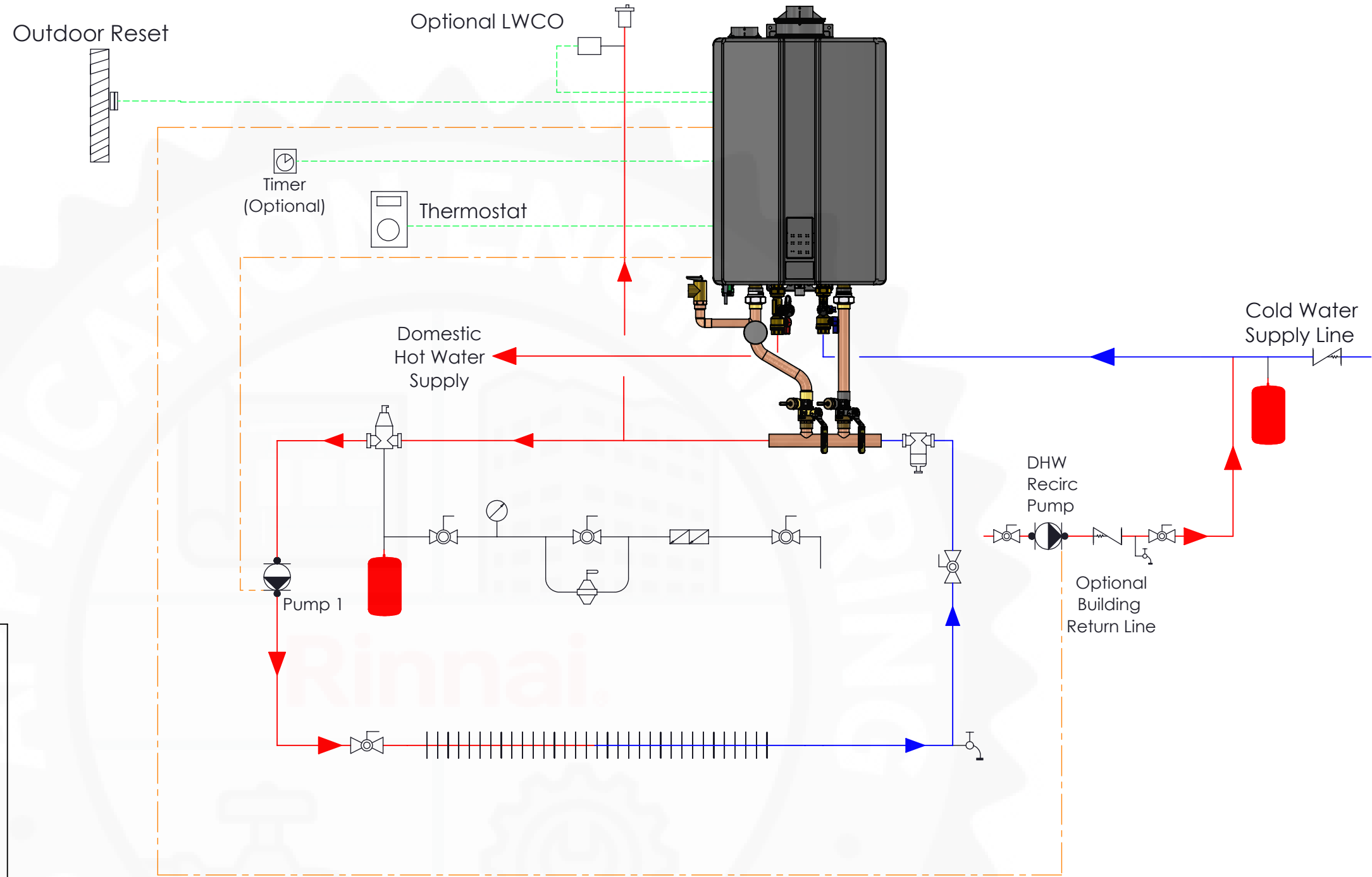
Refer to the installation manual for dip switch settings based on your application.

If an NC terminal on the timer is present, it does not need to be connected to the PC Board.

Do not connect the timer to any of the 120V terminals on the PC Board or to any other 120V components.

A 24 V AC timer can be powered by the boiler auxiliary contact (Max current 0.7A). The timer needs to control an isolated normally open contact connected to T/T2 terminals to active recirculation.

No power should be provided to T/T2 contacts.



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INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

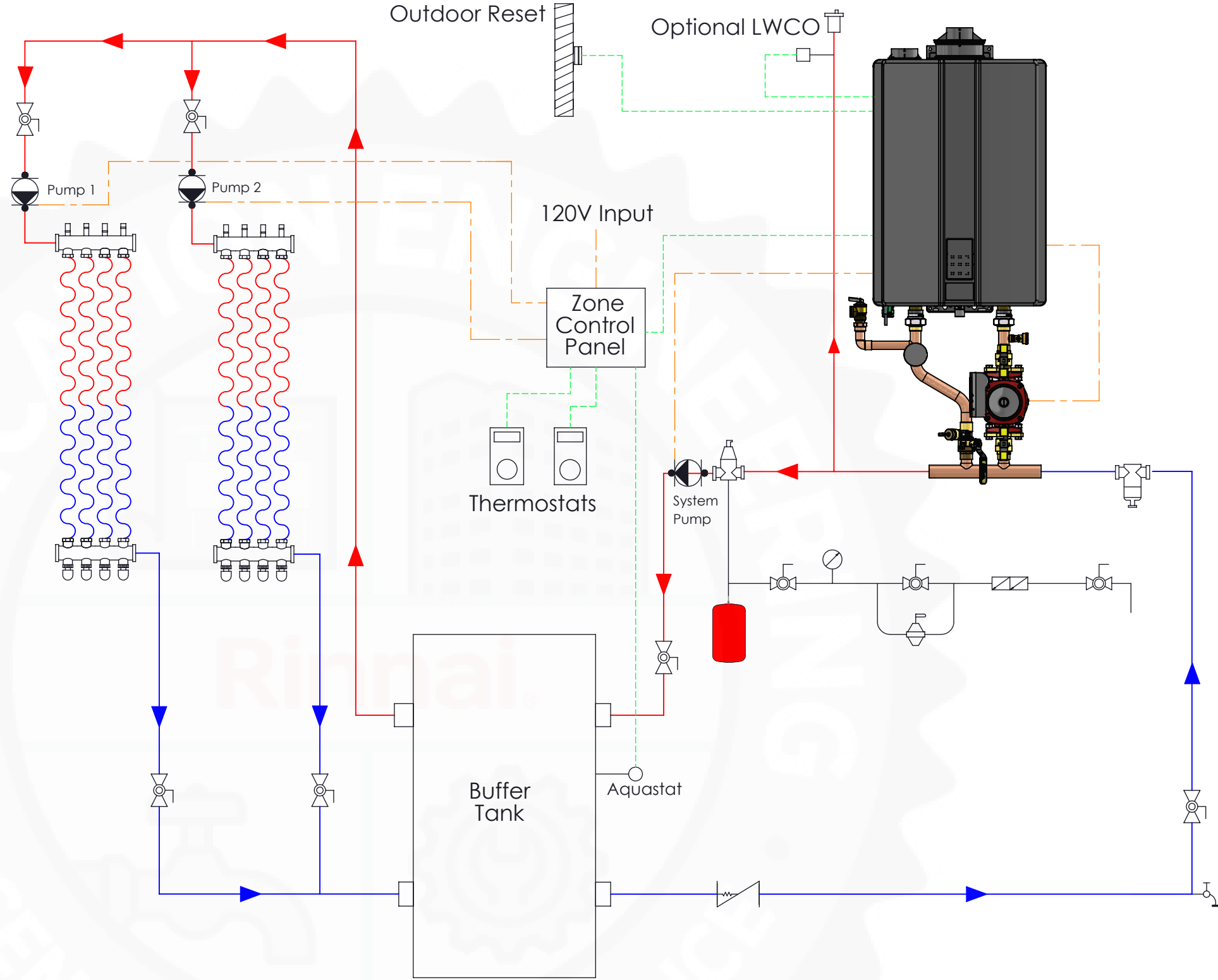
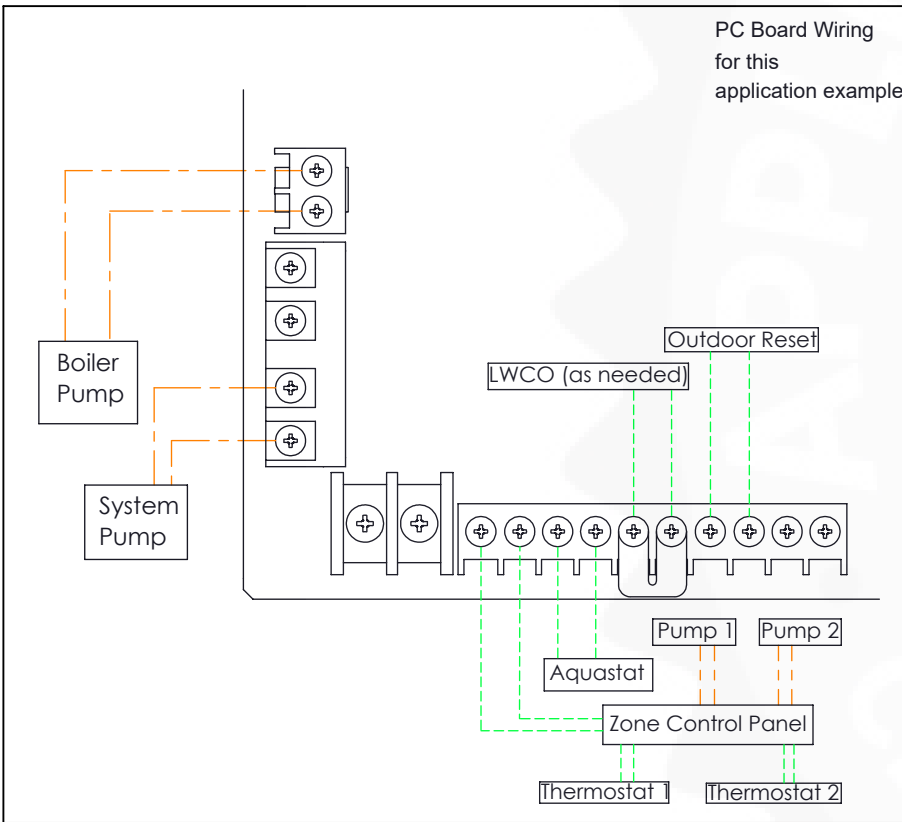
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	PP	05.29.2019
CHECKED	RS	05.29.2019
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

			TITLE: I-Series Combi Boiler with Closely Spaced Tee and Baseboard - Dedicated Return	
			SIZE DWG. NO.	REV
B		11-C-1B-PS	0	
SCALE: NTS			SHEET 1 OF 1	

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

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Angle = ± 0.010°

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

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DRAWN	PP	05.29.2019
CHECKED	RS	05.29.2019
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

Rinnai

TITLE: I-Series Solo Boiler with Closely Spaced Tee - Buffer Tank and Radiant

SIZE DWG. NO. REV
B 11-S-2RST-PS 0

SCALE: NTS SHEET 1 OF 1

Notes:

Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.

Condensate must be disposed of according to local codes.

Air eliminator should be located at least 12 inches away from the first bend on the supply.

Reference the boiler installation manual for recommended glycol brands and mixed ratio.

Reference vent section of the installation manual regarding venting.

System pump(s) must be sized based on heat loss and head loss through the system.

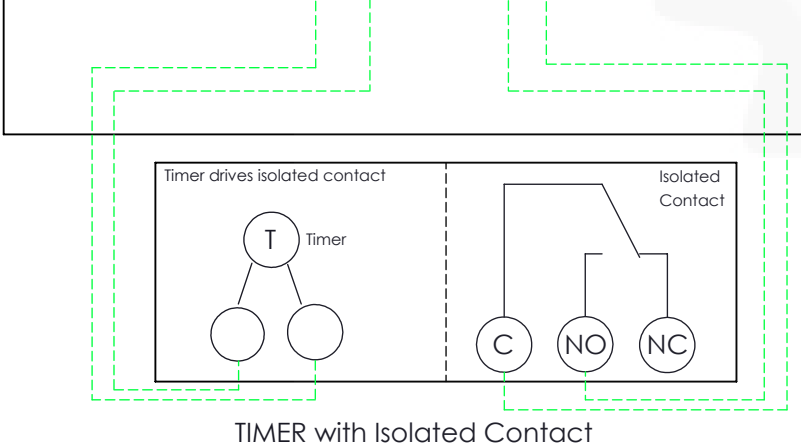
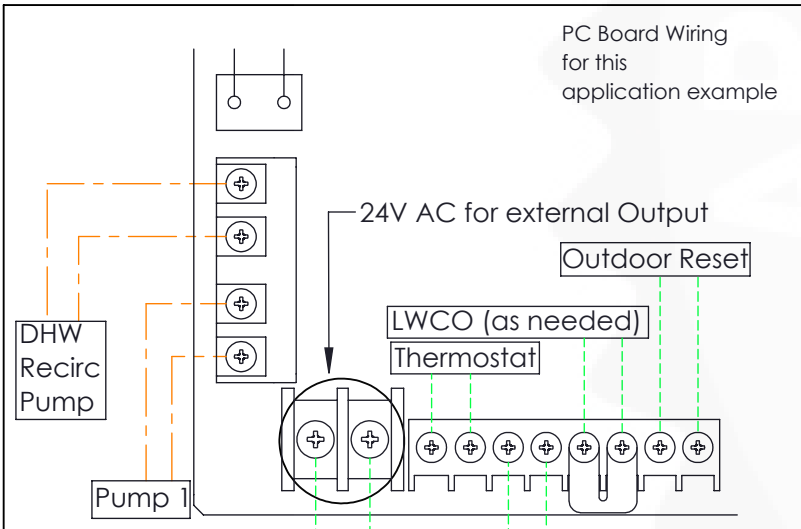
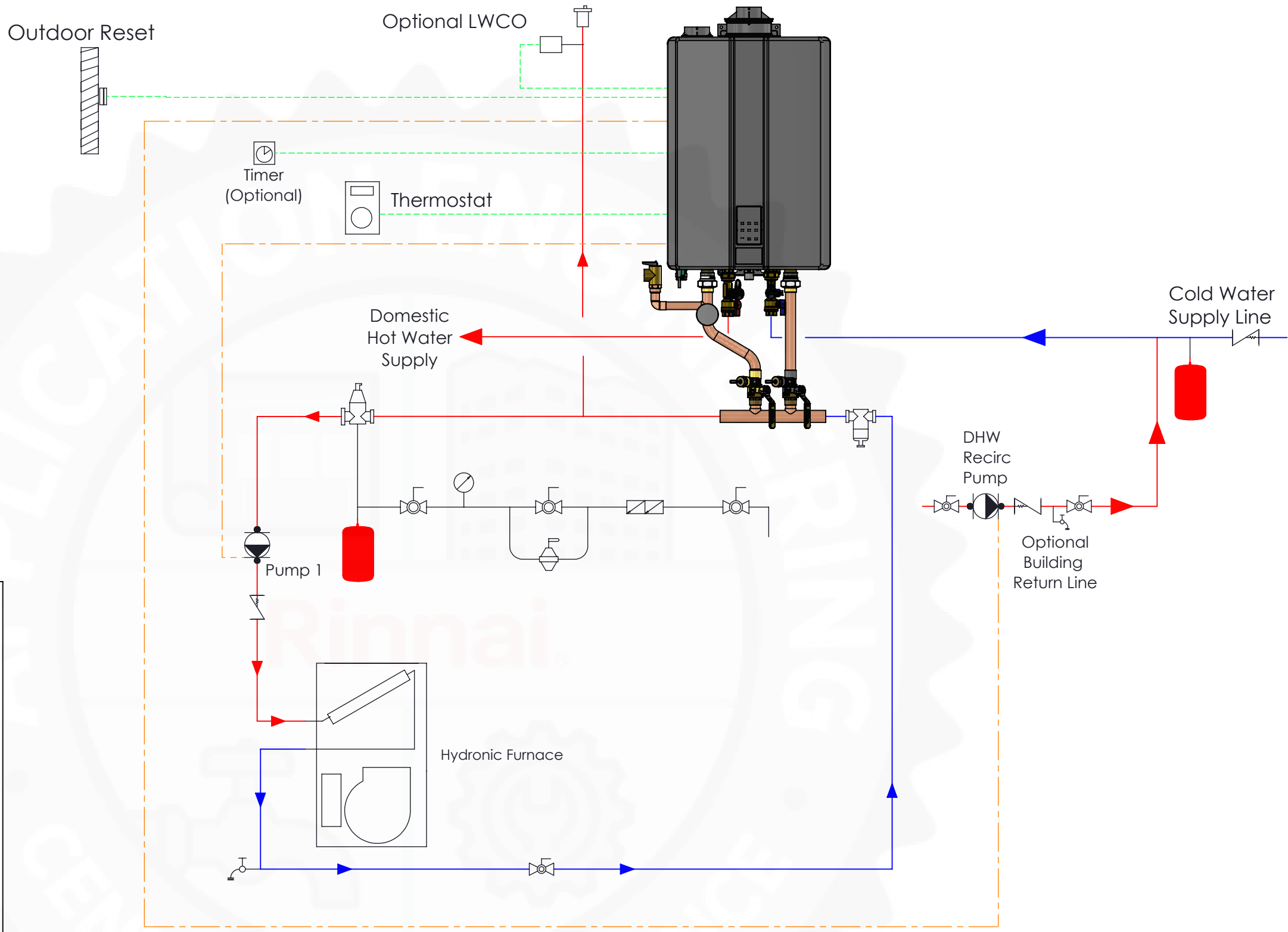
Refer to the installation manual for dip switch settings based on your application.

If an NC terminal on the timer is present, it does not need to be connected to the PC Board.

Do not connect the timer to any of the 120V terminals on the PC Board or to any other 120V components.

A 24 V AC timer can be powered by the boiler auxiliary contact (Max current 0.7A). The timer needs to control an isolated normally open circuit connected to T/T2 terminals to active recirculation.

No power should be provided to T/T2 contacts.



THIRD ANGLE PROJECTION

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MATERIAL
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	NAME	DATE
DRAWN	PP	05.29.2019
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ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

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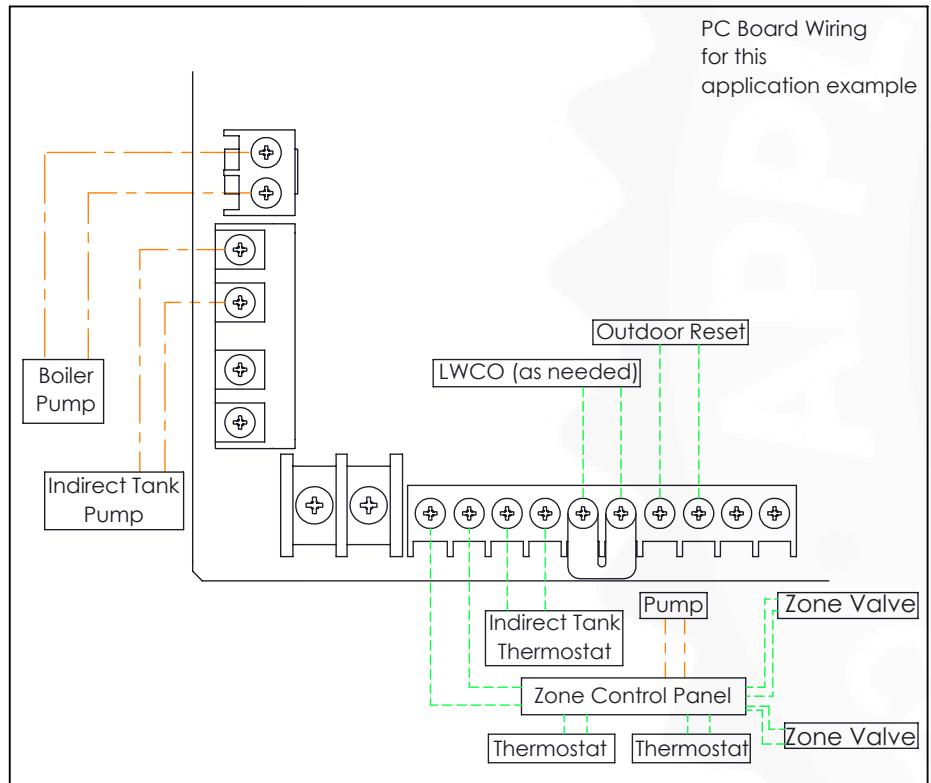
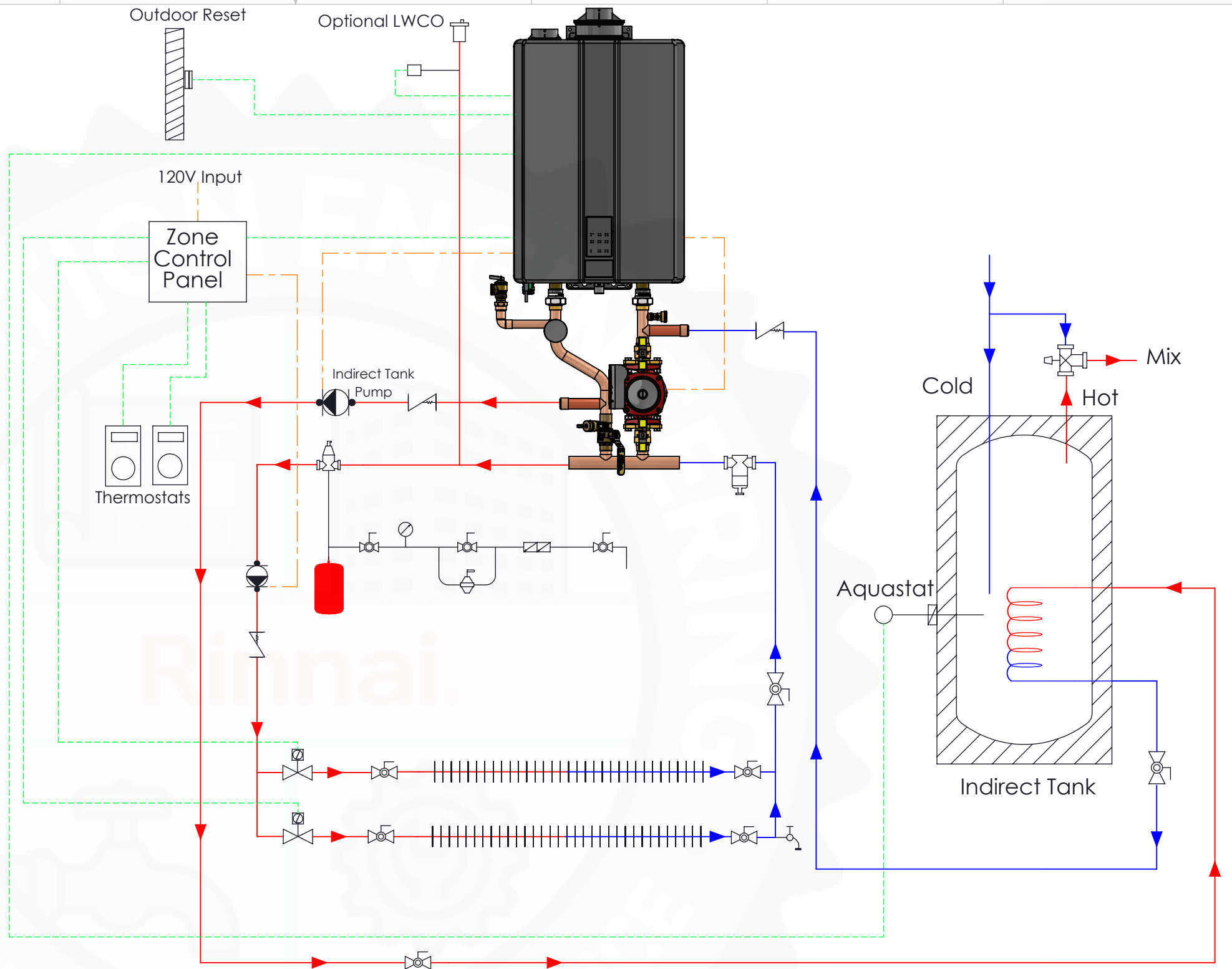
TITLE: I-Series Combi Boiler with Closely Spaced Tee and Air Handler Dedicated Return

SIZE DWG. NO. REV
B 11-C-1A-PS 0

SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.
- Indirect tank pump size should be equal or larger than the boiler pump.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

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MACHINED X.XXX = ±0.005 Angle = ±0.010°	CHECKED	RS 05.29.2019	
INTERPRET GEOMETRIC TOLERANCING PER:	ENG APPR.		
MATERIAL	MFG APPR.		
FINISH	Q.A.		
DO NOT SCALE DRAWING	COMMENTS:		

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TITLE: I-Series Solo Boiler with Closely Spaced Tee - Indirect Tank and Baseboard

SIZE DWG. NO. REV
B 11-S-3BI-PS 0

SCALE: NTS SHEET 2 OF 2

Notes:

Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.

Condensate must be disposed of according to local codes.

Air eliminator should be located at least 12 inches away from the first bend on the supply.

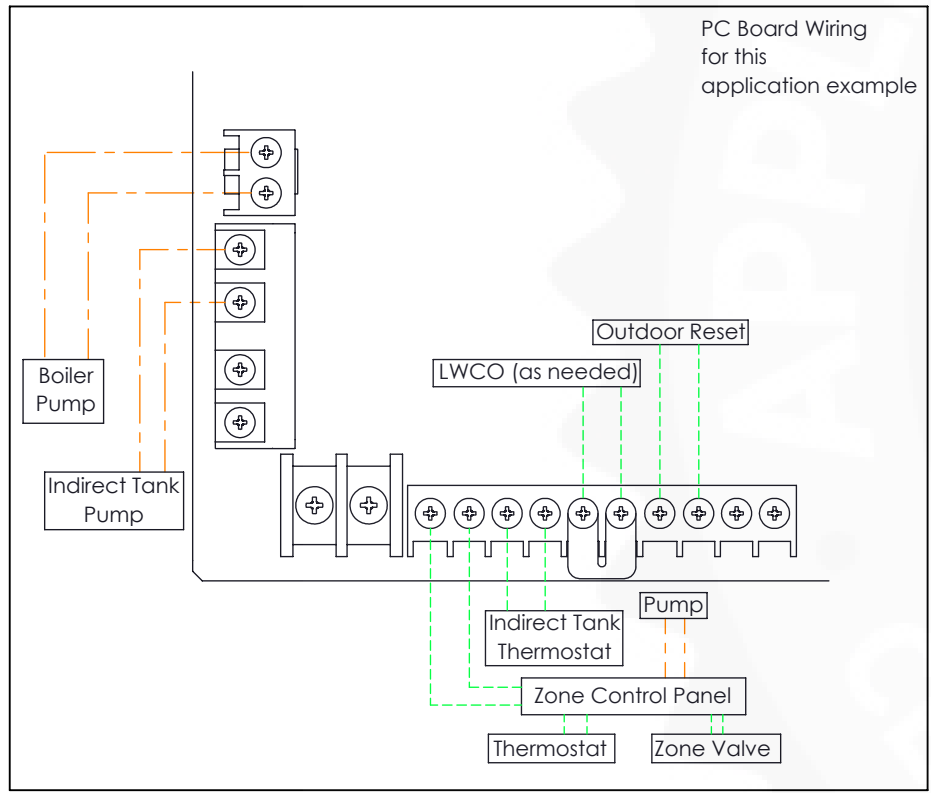
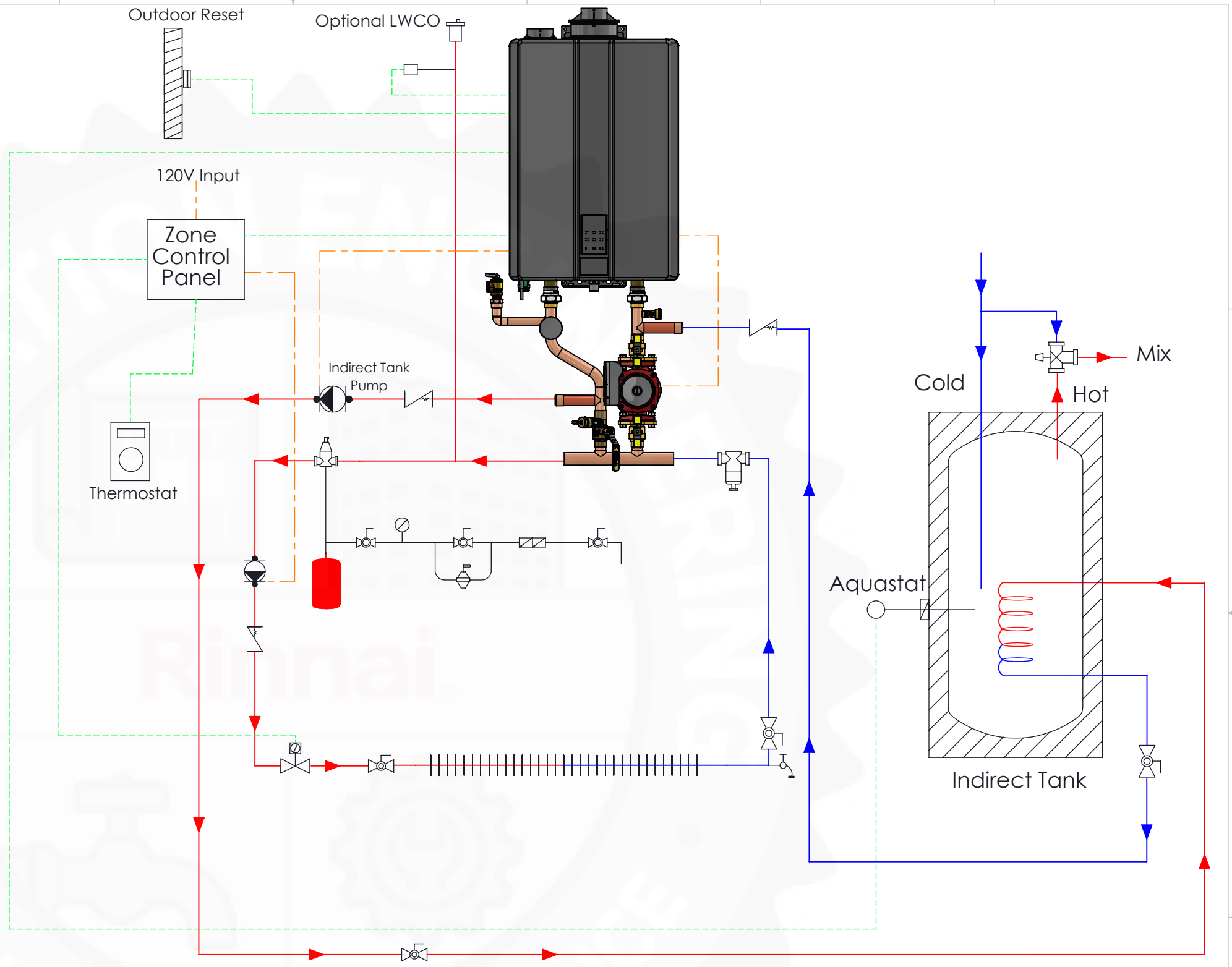
Reference the boiler installation manual for recommended glycol brands and mixed ratio.

Reference vent section of the installation manual regarding venting.

The maximum amperage for the boiler pump is 2 Amps.

System pump(s) must be sized based on heat loss and head loss through the system.

Indirect tank pump size should be equal or larger than the boiler pump.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

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INTERPRET GEOMETRIC TOLERANCING PER:	ENG APPR.		
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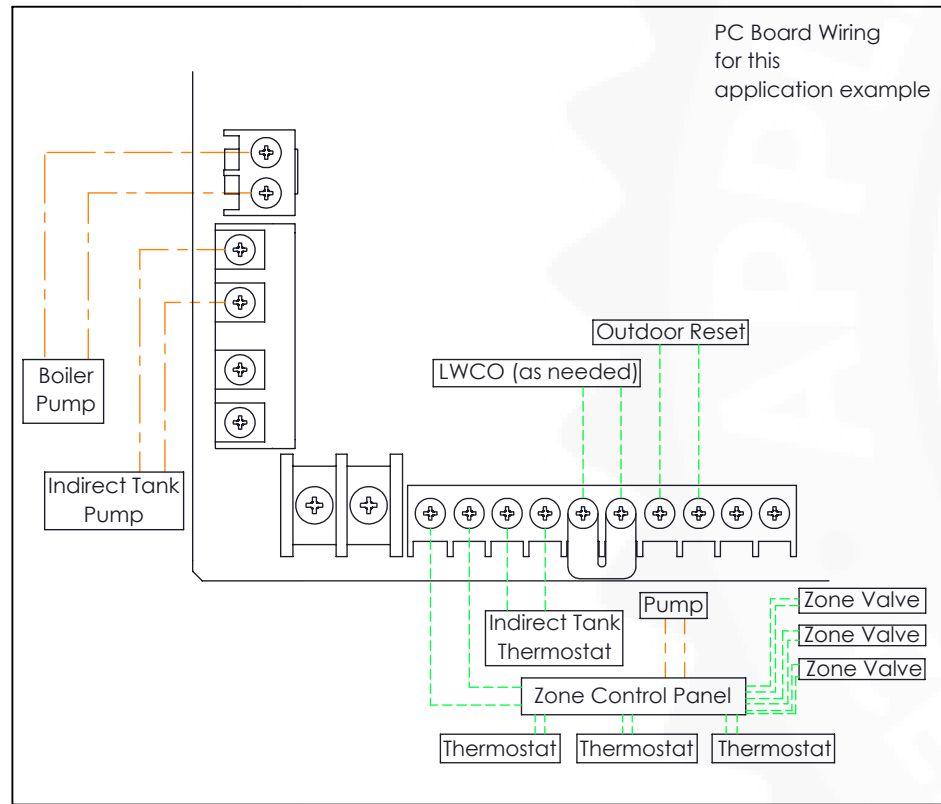
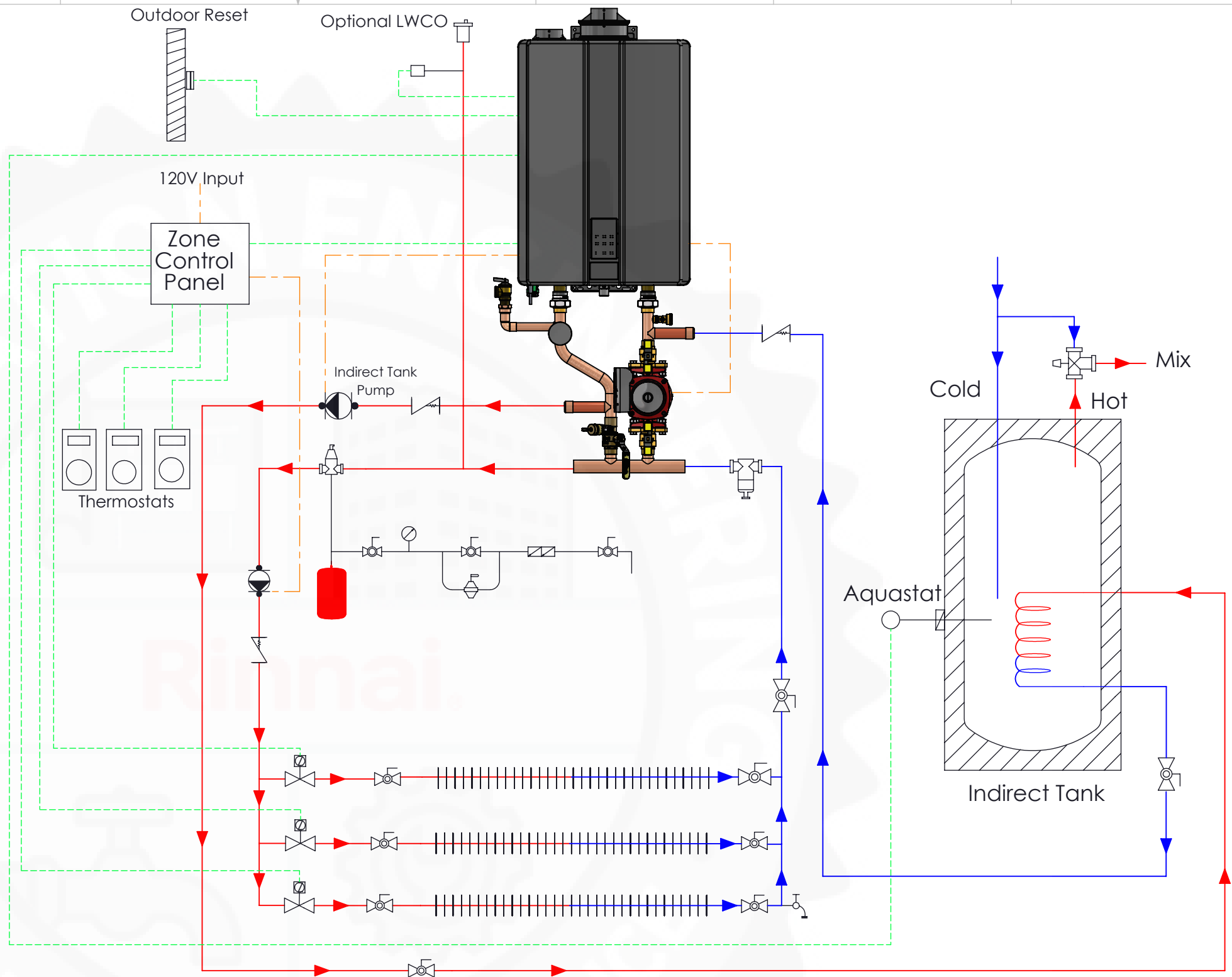
TITLE: I-Series Solo Boiler with Closely Spaced Tee - Indirect Tank and Baseboard

SIZE DWG. NO. REV
B 11-S-2BI-PS 0

SCALE: NTS SHEET 2 OF 2

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.
- Indirect tank pump size should be equal or larger than the boiler pump.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI

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MATERIAL		MFG APPR.	
FINISH		Q.A.	
DO NOT SCALE DRAWING		COMMENTS:	

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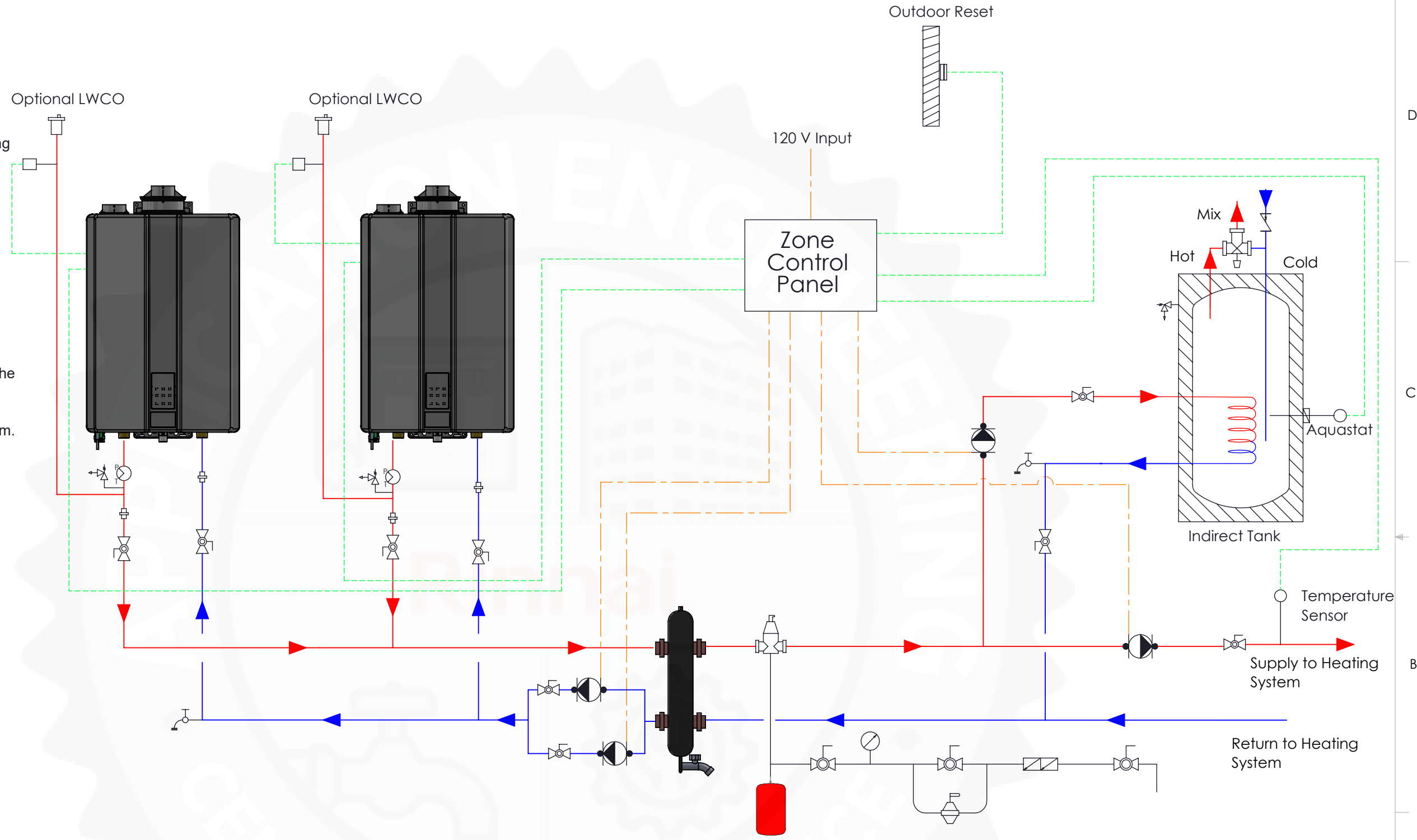
TITLE: I-Series Solo Boiler with Closely Spaced Tee - Indirect Tank and Baseboard

SIZE DWG. NO. REV
B 11-S-4BI-PS 0

SCALE: NTS SHEET 2 OF 2

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- Boiler pump should be sized accordingly. Variable frequency pump is advised.
- Reference third party boiler controller for the wiring diagrams.
- System pump(s) must be sized based on heat loss and head loss through the system.



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INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

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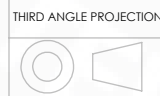
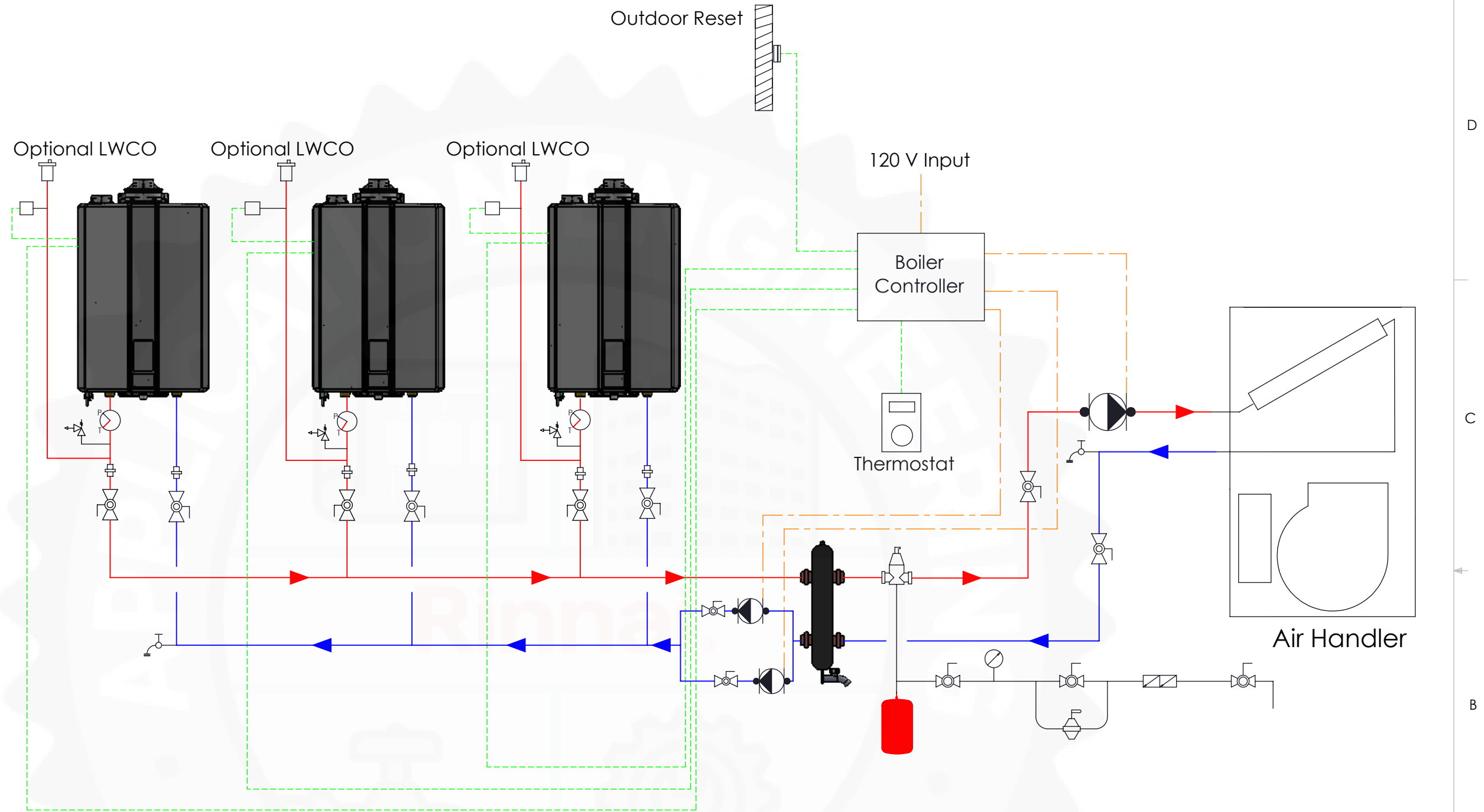
TITLE: Two I-Series Solo Boilers - Multiple Zones LLH with Indirect Tank

SIZE	DWG. NO.	REV
B	2I-S-IXX-LLH	0

SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- Boiler pump should be sized accordingly. Variable frequency pump is advised.
- Reference third party boiler controller for the wiring diagrams.
- System pump(s) must be sized based on heat loss and head loss through the system.



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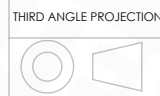
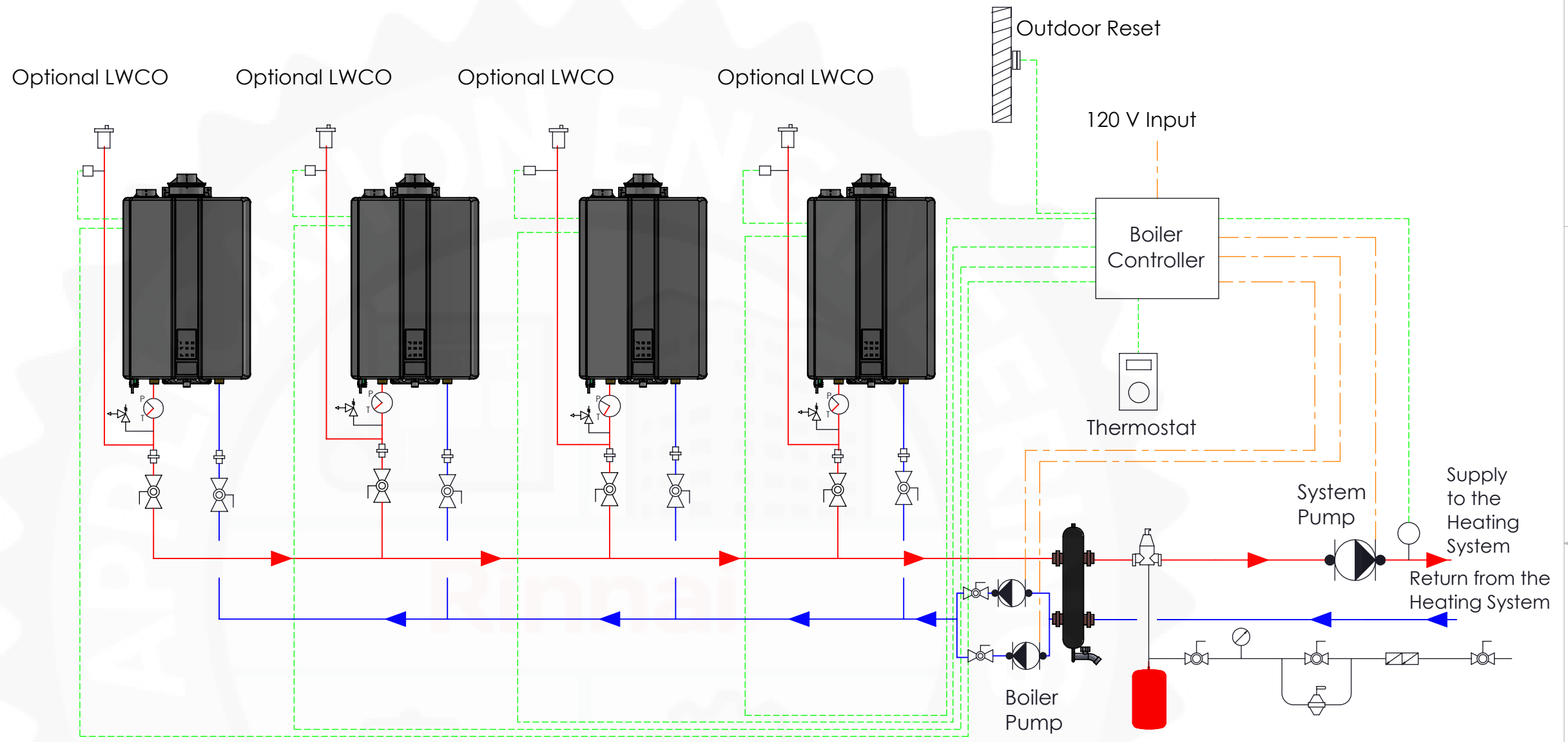
TITLE: **Three I-Series Solo Boilers with LLH and Air Handler**

SIZE	DWG. NO.	REV
B	3I-S-1A-LLH	0

SCALE: NTS SHEET 1 OF 1

Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- Reference hydraulic separator manufacturer.
- Boiler pump should be sized accordingly.
- Variable frequency pump is advised.
- Reference third party boiler controller for the wiring diagrams.



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	X.XXX = ±0.010
	Fraction = ±1/32
	Angle = ± 1.0°
MACHINED	X.XXX = ±0.005
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INTERPRET GEOMETRIC TOLERANCING PER:	
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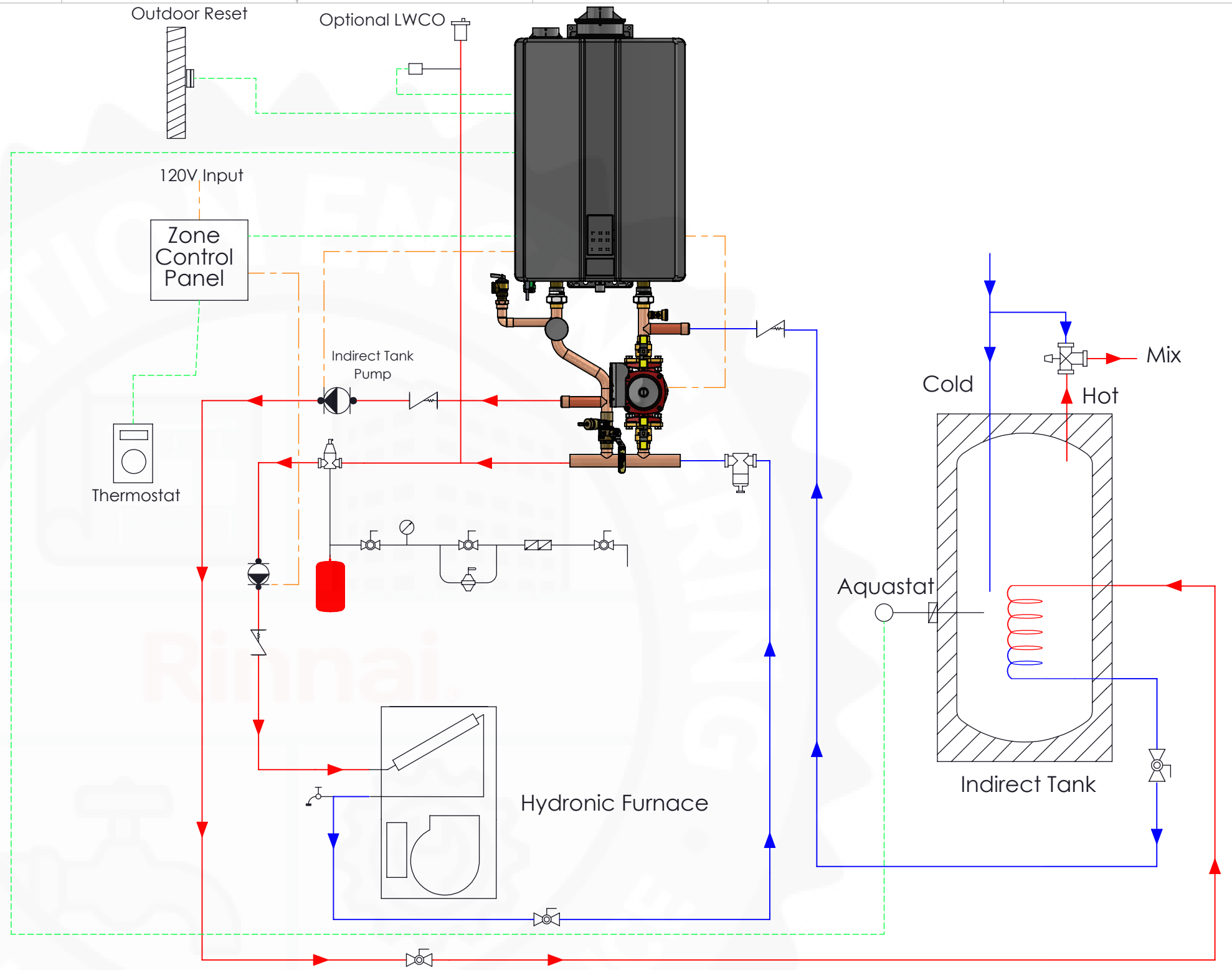
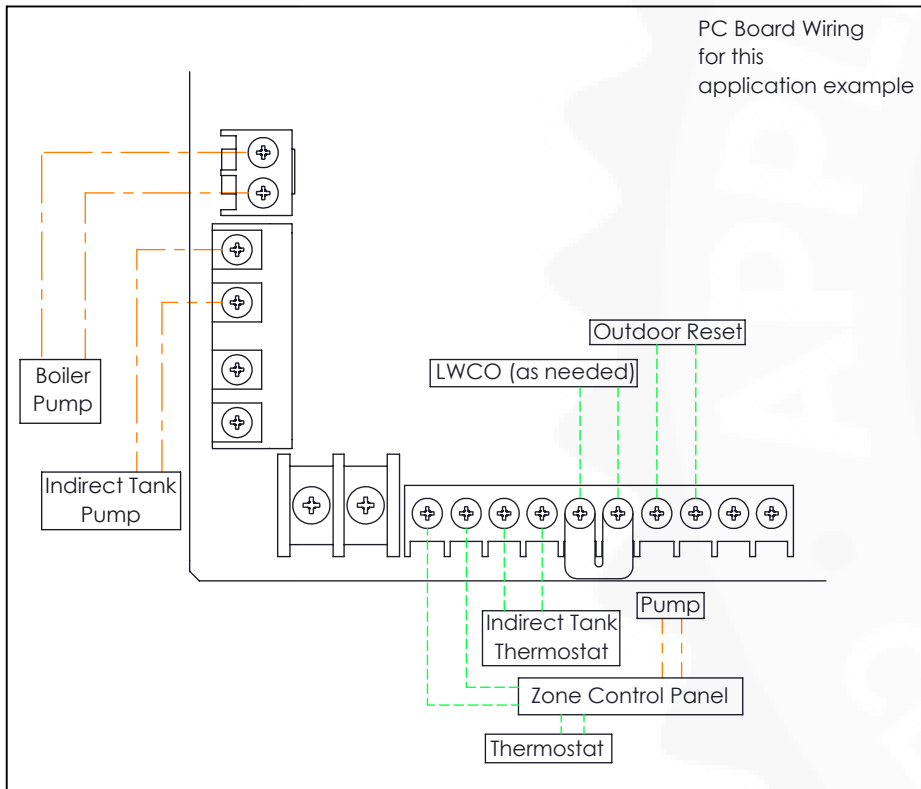
TITLE: **Four I-Series Solo Boilers with LLH**

SIZE	DWG. NO.	REV
B	4I-S-XX-LLH	0

SCALE: NTS SHEET 1 OF 1

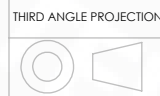
Notes:

- Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.
- Condensate must be disposed of according to local codes.
- Air eliminator should be located at least 12 inches away from the first bend on the supply.
- Reference the boiler installation manual for recommended glycol brands and mixed ratio.
- Reference vent section of the installation manual regarding venting.
- The maximum amperage for the boiler pump is 2 Amps.
- System pump(s) must be sized based on heat loss and head loss through the system.
- Indirect tank pump size should be equal or larger than the boiler pump.



Boiler Pump Recommendation:

Model	Pump Model			
	Grundfos	Taco	Bell & Gossett	Armstrong
i060S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i090S	UPS 15-42	007-IFC	NRF-25	ASTRO 230CI
i120S	UPS 15-58	008-IFC	NRF-25	ASTRO 230CI
i150S	UPS 26-99	0011-IFC	N/A	ASTRO 280CI



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TITLE: I-Series Solo Boiler with Closely Spaced Tee - Indirect Tank and Air Handler

SIZE	DWG. NO.	REV
B	11-S-2AI-PS	0
SCALE: NTS		SHEET 2 OF 2

Notes:

Condensate piping shall be CPVC or PVC material and shall not be smaller than the drain connection on the appliance.

Condensate must be disposed of according to local codes.

Air eliminator should be located at least 12 inches away from the first bend on the supply.

Reference the boiler installation manual for recommended glycol brands and mixed ratio.

Reference vent section of the installation manual regarding venting.

System pump(s) must be sized based on heat loss and head loss through the system.

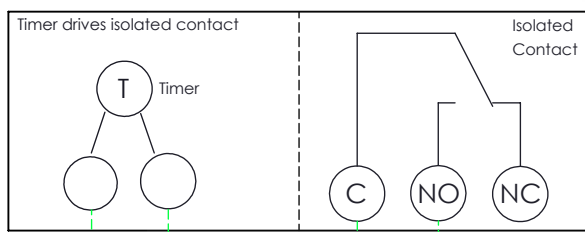
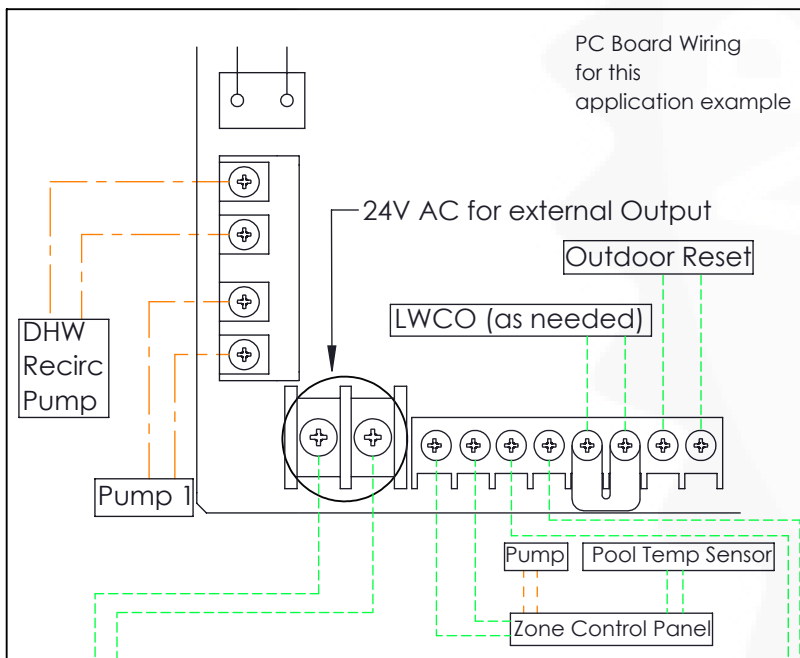
Refer to the installation manual for dip switch settings based on your application.

If an NC terminal on the timer is present, it does not need to be connected to the PC Board.

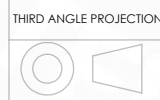
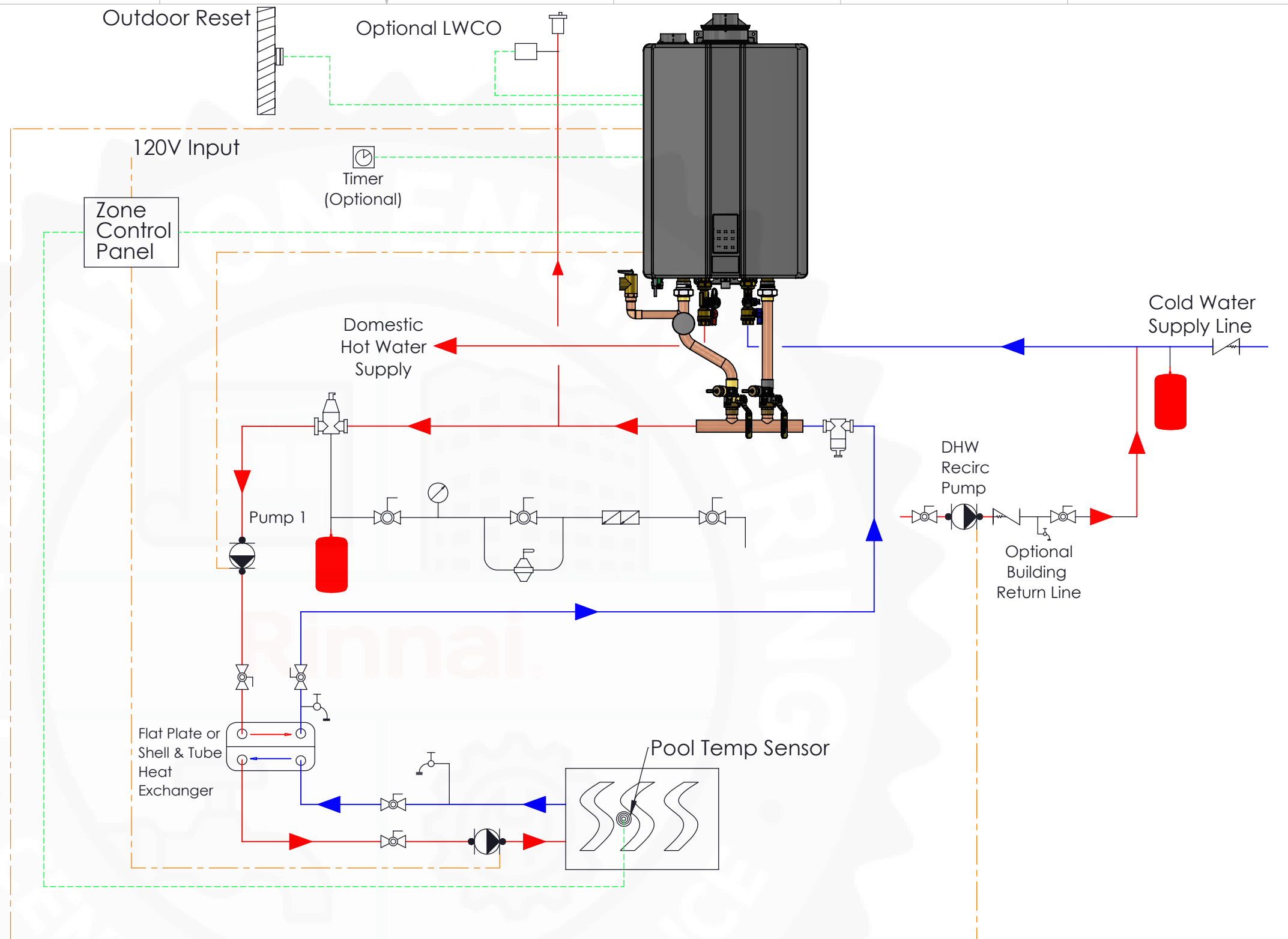
Do not connect the timer to any of the 120V terminals on the PC Board or to any other 120V components.

A 24 V AC timer can be powered by the boiler auxiliary contact (Max current 0.7A). The timer needs to control an isolated normally open circuit connected to T/T2 terminals to active recirculation.

No power should be provided to T/T2 contacts.



TIMER with Isolated Contact



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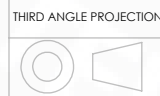
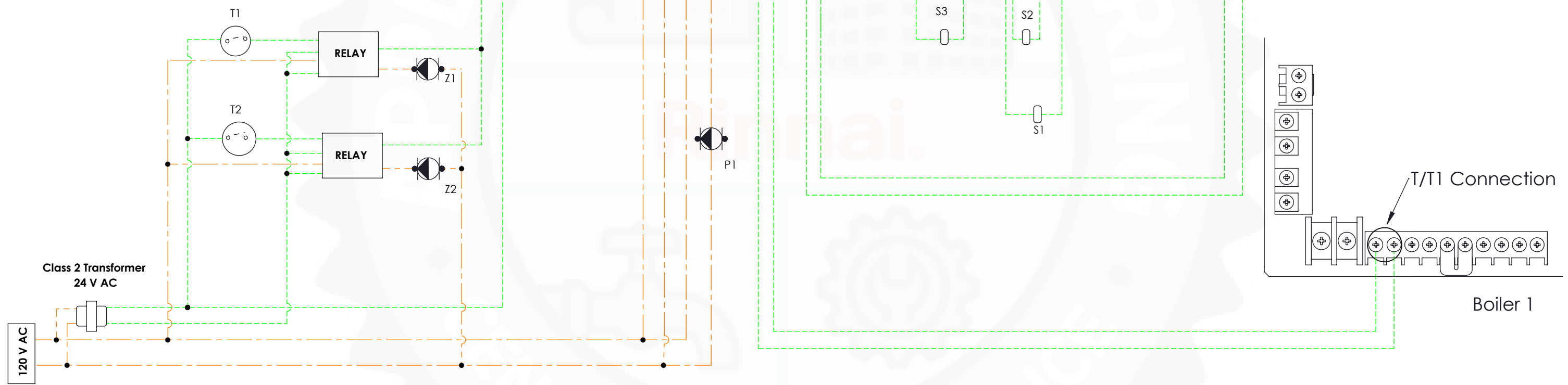
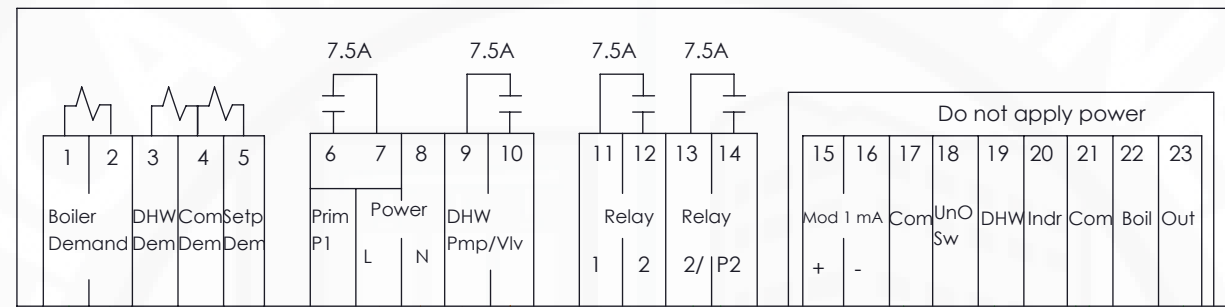
	NAME	DATE
DRAWN	PP	05.29.2019
CHECKED	RS	05.29.2019
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

			TITLE:	I-Series Combi Boiler with Closely Spaced Tee - Pool Heating and Dedicated Return	
			SIZE	DWG. NO.	REV
B		11-C-1PHX-PS	0		
SCALE: NTS			SHEET 1 OF 1		

****FIELD SUPPLIED ZONE CONTROLLER****

- Relay = 24 V AC DPDT Electrical Relay
- P1 = DHW Circulator (for indirect tank)
- Z1, Z2 = Zone Circulators
- T1, T2 = Thermostats (heat demand control)
- S1 = Outdoor Sensor
- S2 = Boiler Supply Sensor
- S3 = DHW Submersible Sensor (for DHW pump control)



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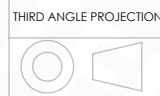
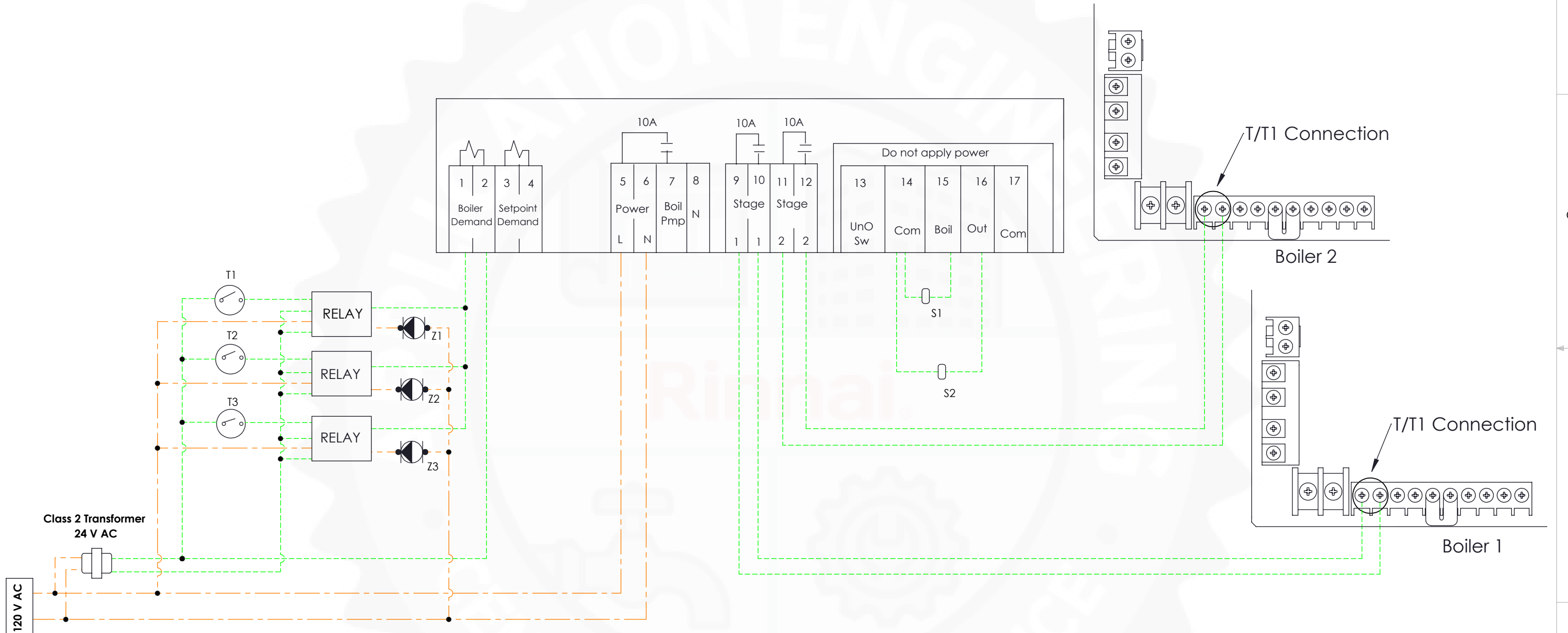
TITLE:
(2) I-Series Solo Boilers, Indirect Tank, & (3) Heating Zones with Zone Pumps

SIZE DWG. NO.	REV
B IIW-2S-2ZP-I	0

SCALE: NTS SHEET 1 OF 1

****FIELD SUPPLIED ZONE CONTROLLER****

Relay = 24 V AC DPDT Electrical Relay
 Z1, Z2, Z3 = Zone Circulators
 T1, T2, T3 = Thermostats(heat demand control)
 S1 = Boiler Sensor
 S2 = Outdoor Sensor



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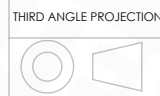
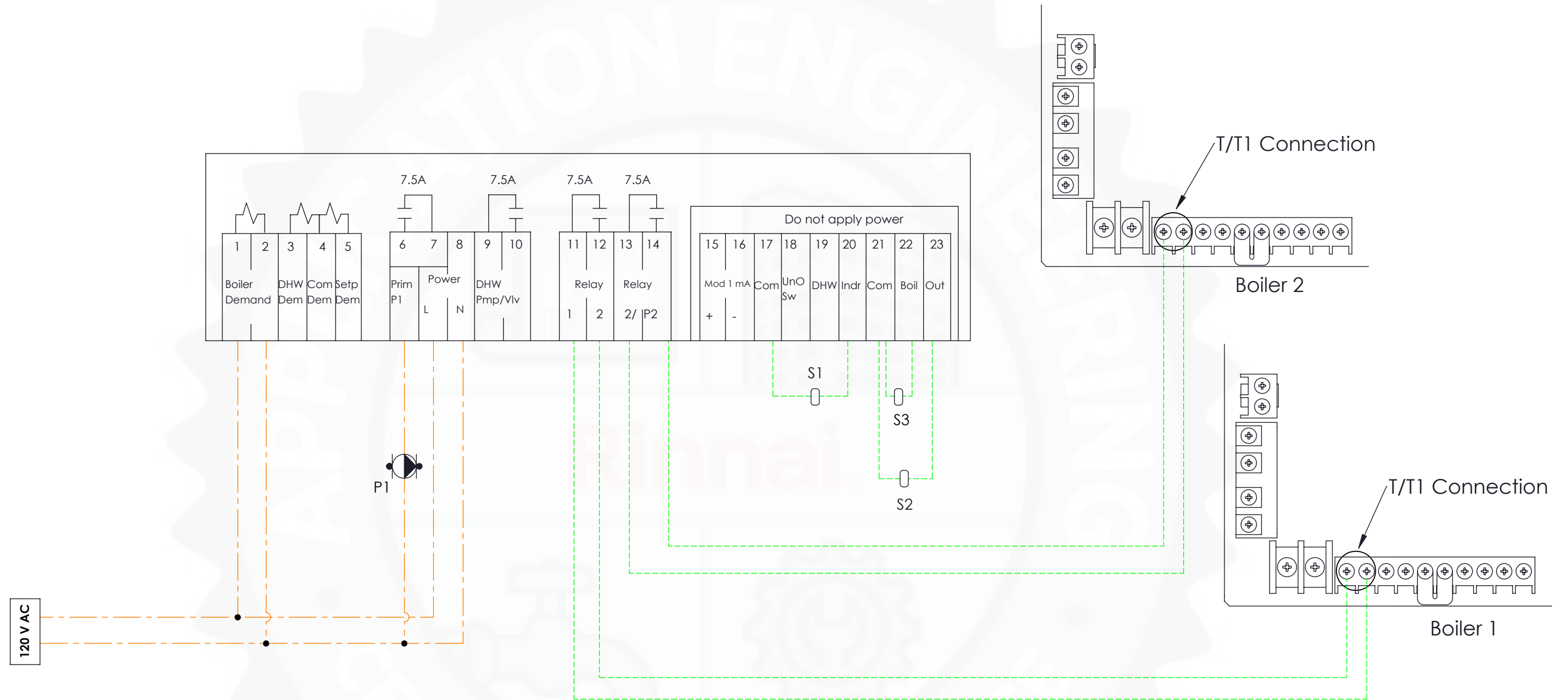
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Q.A.		
COMMENTS:		

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TITLE: Two I-Series Solo Boilers Heating Only: Three Heating Zones with Zone Pumps		
SIZE	DWG. NO.	REV
B	IW-2S-3ZP	0
SCALE: NTS		SHEET 1 OF 1

****FIELD SUPPLIED ZONE CONTROLLER****

P1 = Primary Circulator for Space Heating
 S1 = Indoor Sensor
 S2 = Outdoor Sensor
 S3 = Boiler Supply Sensor



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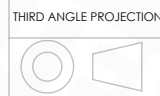
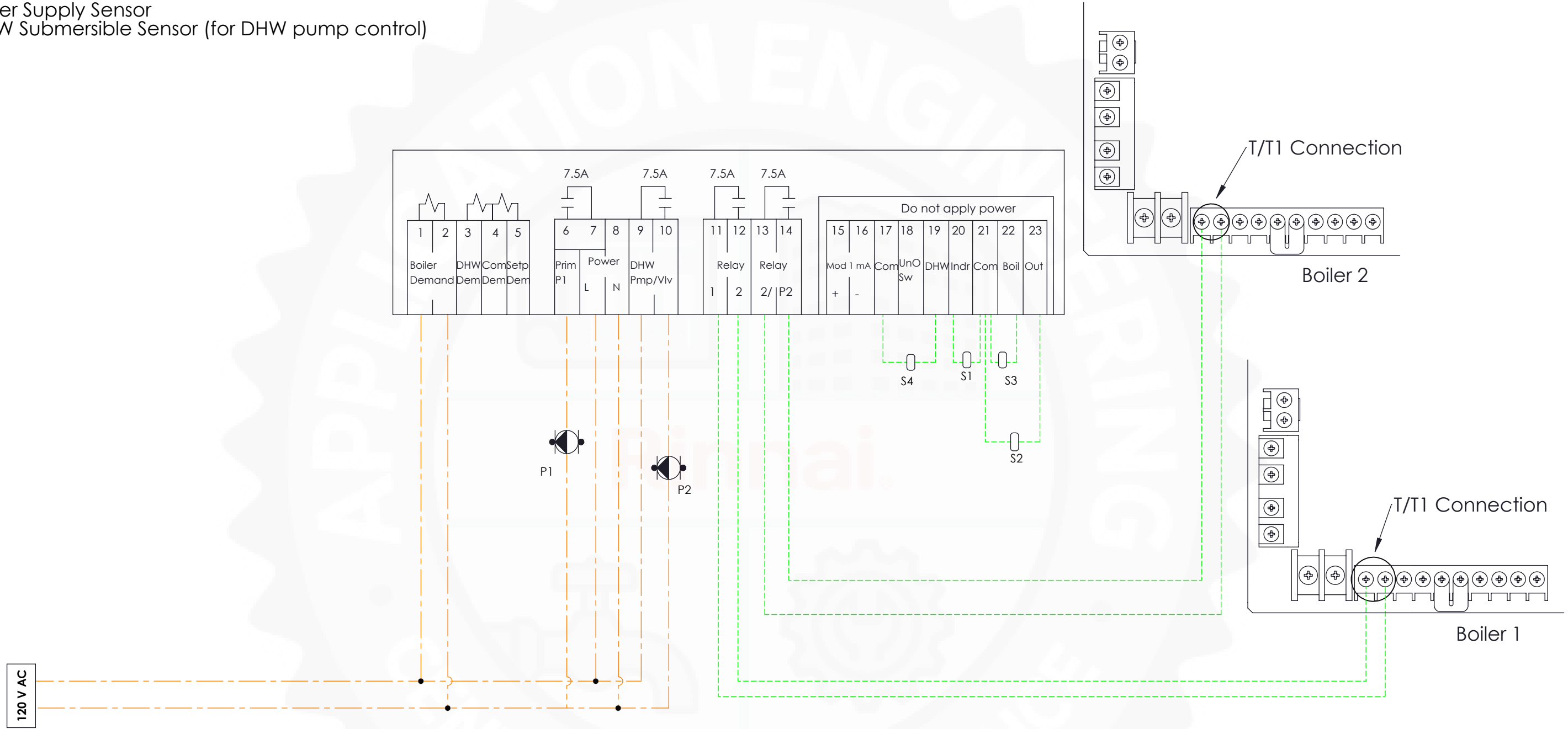
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CHECKED	RS	05.29.2019
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

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TITLE: Two I-Series Solo Boilers Space Heating Only		
SIZE	DWG. NO.	REV
B	IW-2S-SH	0
SCALE: NTS		SHEET 1 OF 1

****FIELD SUPPLIED ZONE CONTROLLER****

- P1 = Primary Circulator for space heating
- P2 = DHW Circulator (for indirect tank)
- S1 = Indoor Sensor
- S2 = Outdoor Sensor
- S3 = Boiler Supply Sensor
- S4 = DHW Submersible Sensor (for DHW pump control)



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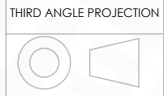
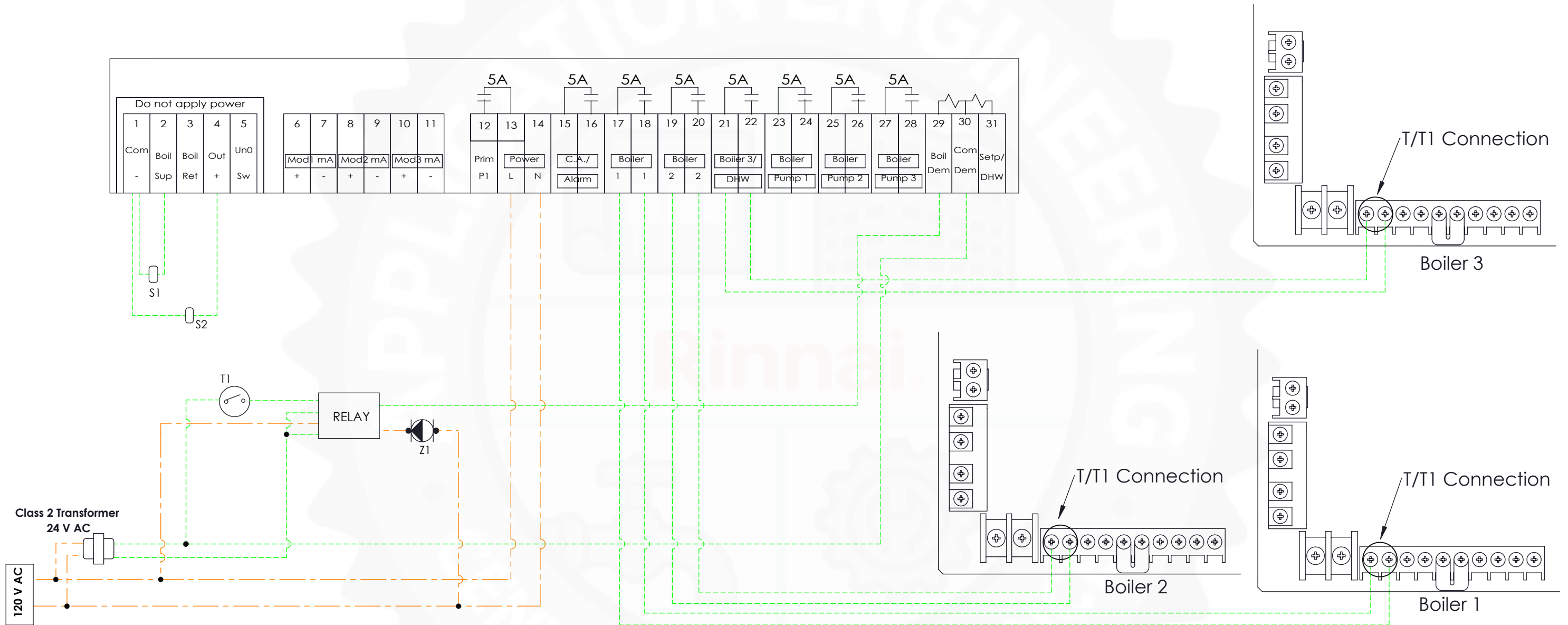
TITLE: Two I-Series Solo Boilers, Indirect Tank and Space Heating

SIZE	DWG. NO.	REV
B	IW-2S-SH-I	0

SCALE: NTS SHEET 1 OF 1

****FIELD SUPPLIED ZONE CONTROLLER****

Relay = 24 V AC DPDT Electrical Relay
 Z1 = Zone Circulator
 T1 = Thermostat(heat demand control)
 S1 = Boiler Sensor
 S2 = Outdoor Sensor



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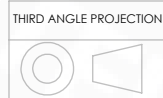
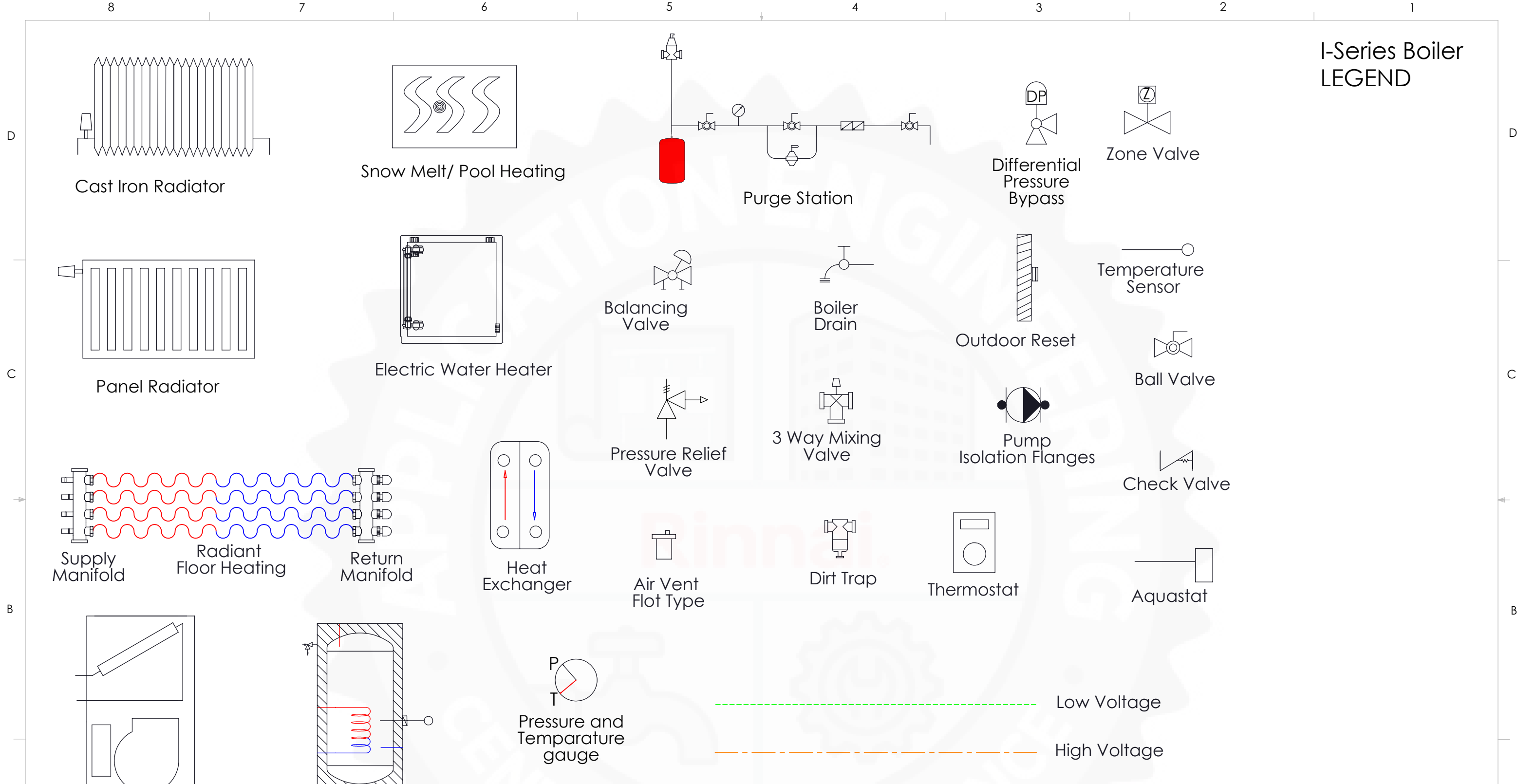
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TITLE: Three I-Series Solo Boilers - One Heating Zone with Zone Pump

SIZE	DWG. NO.	REV
B	IW-3S-1ZP	0

SCALE: NTS SHEET 1 OF 1

I-Series Boiler LEGEND



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