



## Armstrong Hot Water, Inc. – Technical Service Bulletin

221 Armstrong Blvd., Three Rivers, Michigan 49093 – U.S.A. Phone: (269) 279-3602 Fax: (269) 279-3130

### AHWG TSB#12–DMC Flex Installation

**Product:** DMC40 FLEX, DMC40BS FLEX, DMC50 FLEX, DMC50BS FLEX

**Technical Assessment Reference:** N/A

**Topic/Problem Replacement &/or Resolution:** Installing the sub-sections of the DMC Flex in the field

The following will explain the necessary parts and procedure to install and connect the various sub-sections of piping manifolds as well as the SAGE BS Panel (if supplied) together in the field upon ordering and receiving a DMC Flex package assembly. Depending on the specific model ordered you will receive a total of **2 to 3** separate boxes each including a different sub-section of the complete package assembly (explained below).

Below is a list of parts that are included with the **DMC40 or 50 FLEX or DMC40 or 50BS FLEX** Assembly:

- The Complete Assembly (*see Figure 1 & 2*) and The Complete Assembly Broken Down (*see Figure 3*)

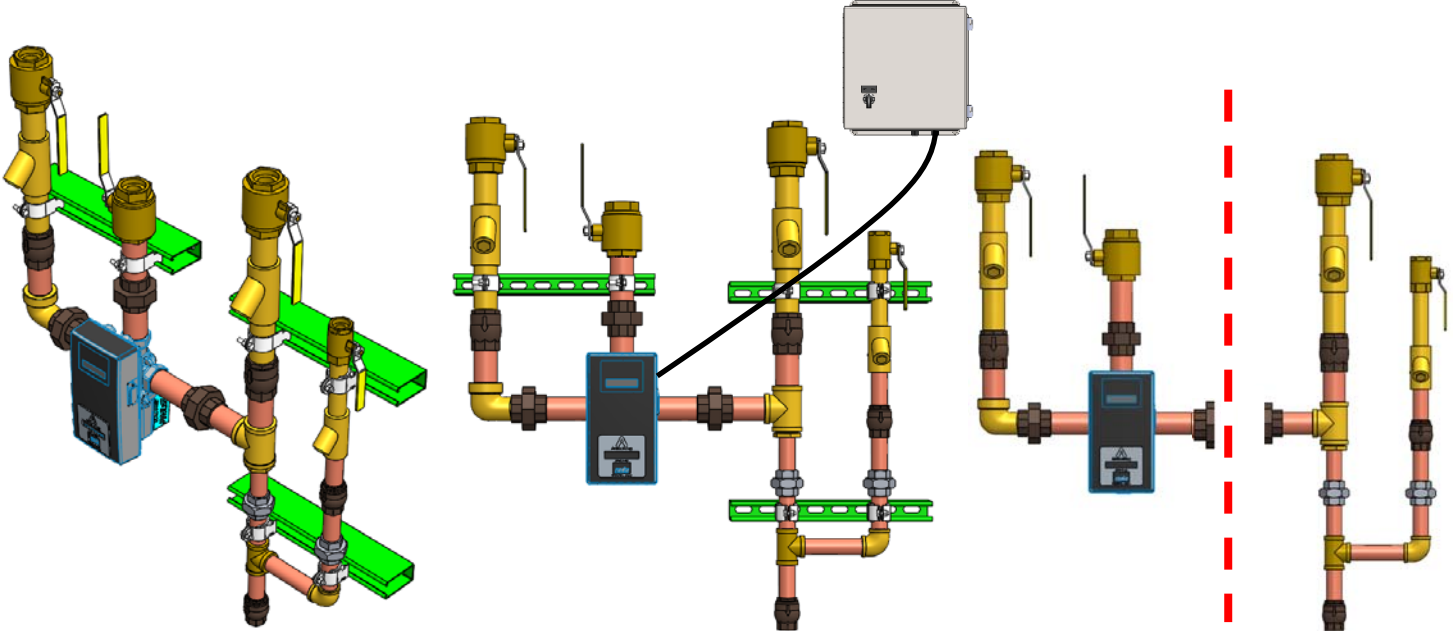


Figure 1: DMC FLEX

Figure 2: DMCBS FLEX (SAGE BS Option Shown)

Figure 3: DMC FLEX – Broken Down



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- Sub-Section #1 – Hot Inlet & DRV & Misc. Components (*see Figure 4*)
  - Sub-Section #1A – Unistrut & Hangers
  - Sub-Section #1B – SAGE BS Panel (if supplied)
- Sub-Section #2 – Cold/Recirculation (*see Figure 5*)

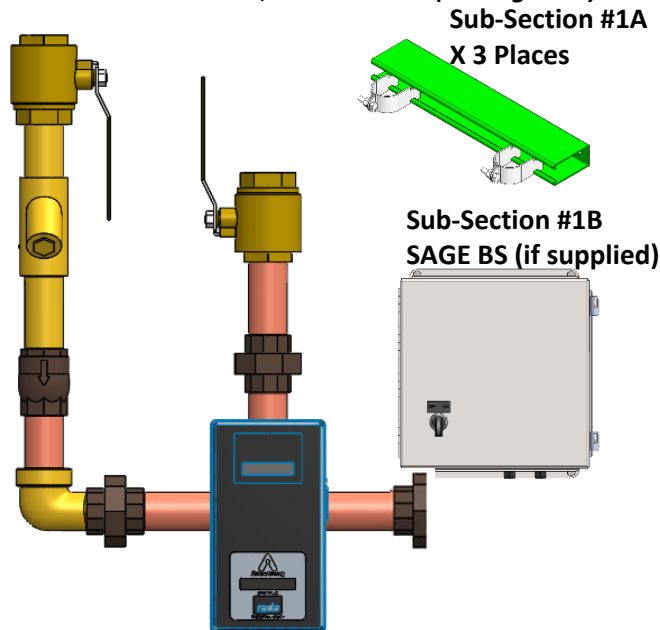


Figure 4: Sub-Section #1

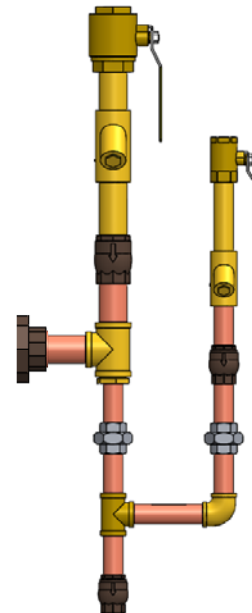


Figure 5: Sub-Section #2

### Tools Required:

- Pipe Wrench
- Adjustable Wrench
- Pliers
- T Handle Hex Head Wrench; Size 4mm
- 1/8" Slotted Screwdriver & Phipps Screwdriver
- 11/16" Drill Bit & Drill

### Replacement or Installation Process/Steps:

1. Begin by un-packaging all of the Sub-Sections shown above with all parts included
2. Select an appropriate location to mount the complete package assembly ensuring sufficient space (see drawing at end of TSB)
3. Mount 1 of the pieces of Unistrut for the top left of Sub-Section #1 in the location desired using a drill and an appropriate fastener depending on the material of mount
4. Take Sub-Section #1 and attach to the Unistrut mounted in step #3 using an adjustable wrench in the locations indicated on the drawing at the end of the TSB
5. With Sub-Section #1 mounted, take Sub-Section #2 and make the appropriate connections at Connection Pt. #1A and #1B using a pipe wrench (*see Figure 6*)
6. Mount the remaining 2 pieces of Unistrut in the locations indicated on the drawing at the end of the TSB and attached Sub-Section #2 (*see Figure 7*)
7. If NOT SUPPLIED with SAGE BS, procedure is complete; if SUPPLIED with SAGE BS, continue to step #8

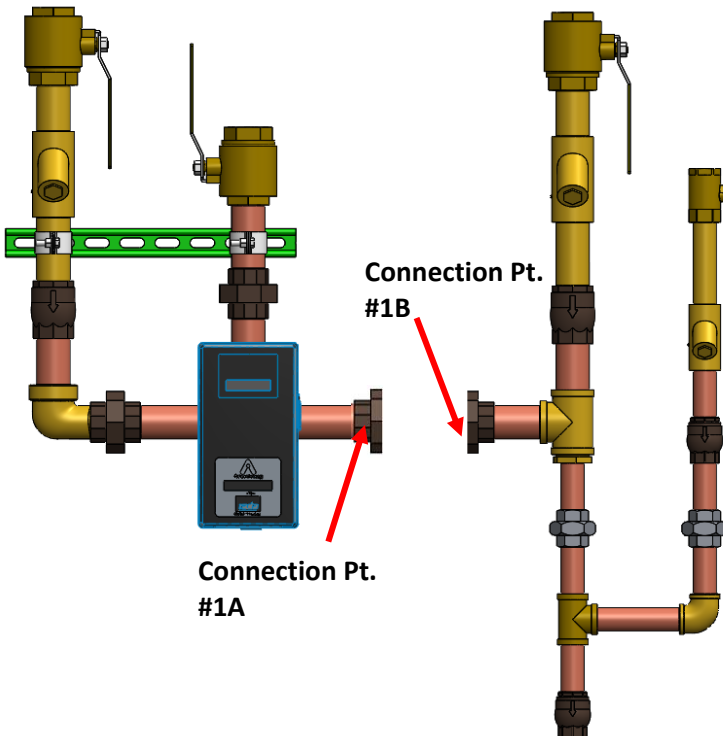


Figure 6: Sub-Section #1 to #2 Assembly

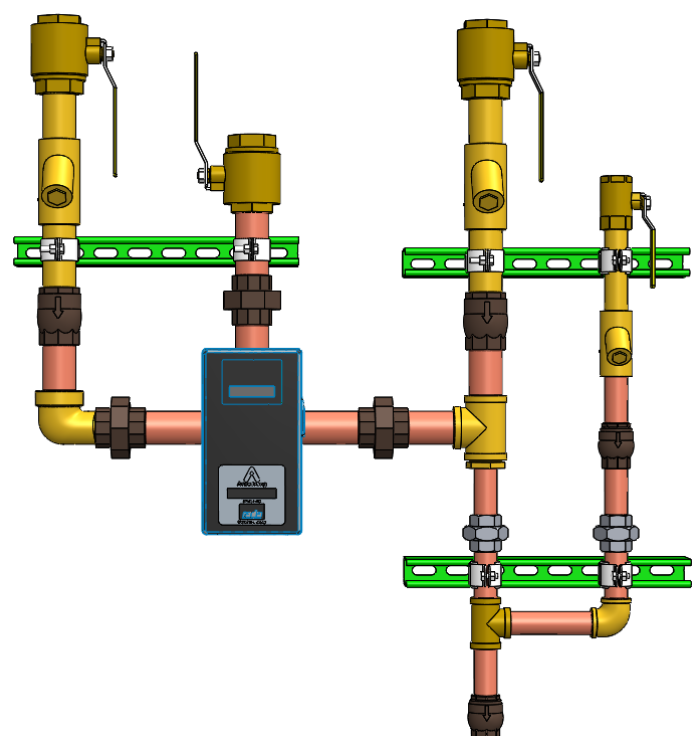


Figure 7: Complete Assembly

8. With both Sub-Sections #1 and #2 assembled and mounted, mount the SAGE BS panel in the desired location (within 5' of the DRV) and run the data communication cable provided with the SAGE BS from the SAGE BS panel to the DRV (*see Figure 2*)
9. To connect the data communication cable to the DRV remove the two screws on the right side of the plastic electric enclosure with the #4mm T handle hex head wrench (*see Figure 8*)
10. Disconnect the two connectors and remove the clip on the top hinge pin and rotate the plastic electric enclosure away from the DRV valve body (*see Figure 9*)



Figure 8: Plastic Electric Enclosure Access



Figure 9: Plastic Electric Enclosure Rotated



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11. With the electric housing removed, remove the 6 phillips head screws holding the cover on, disconnect the battery plug and drill an 11/16" hole at the bottom right of the cover to install the cord grip for the data communication cable (*see Figure 10 & 11*)
12. Secure the cord grip and connect the data communication cable to the 4 pin plug connector in the order of red, white, black, blank from top down (*see Figure 12 & 14*)



Figure 10: Cover Screws



Figure 11: Cover 11/16" Cord Grip Hole

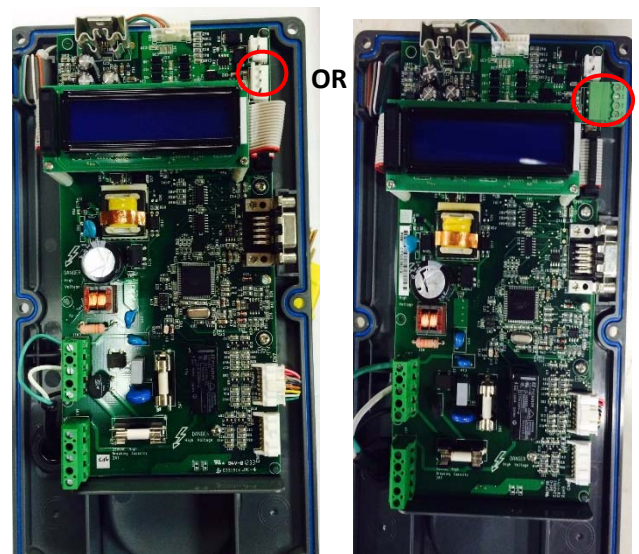


Figure 12: Data Cable Connection

13. Reverse steps 9-11 to put the electric enclosure back on the DRV
14. If the data communication cable had to be disconnected from the SAGE BS panel, feed the cable back through the existing hole and cord grip and connect to the SAGE BS board ST5 connector in the order of white, red, black from left to right as you look at the SAGE BS board (*see Figure 13*)

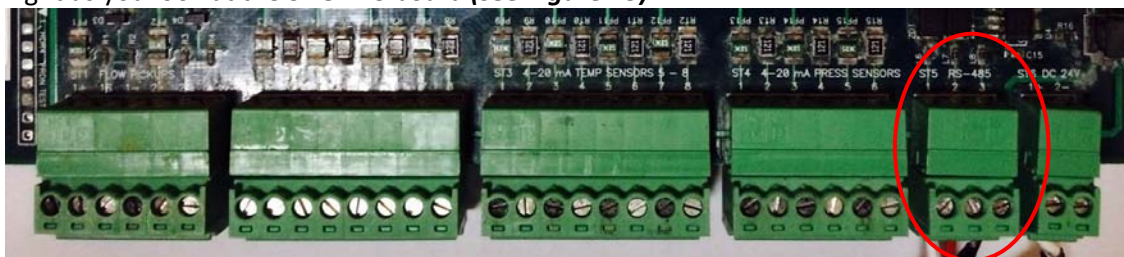


Figure 13: SAGE BS Board Connection



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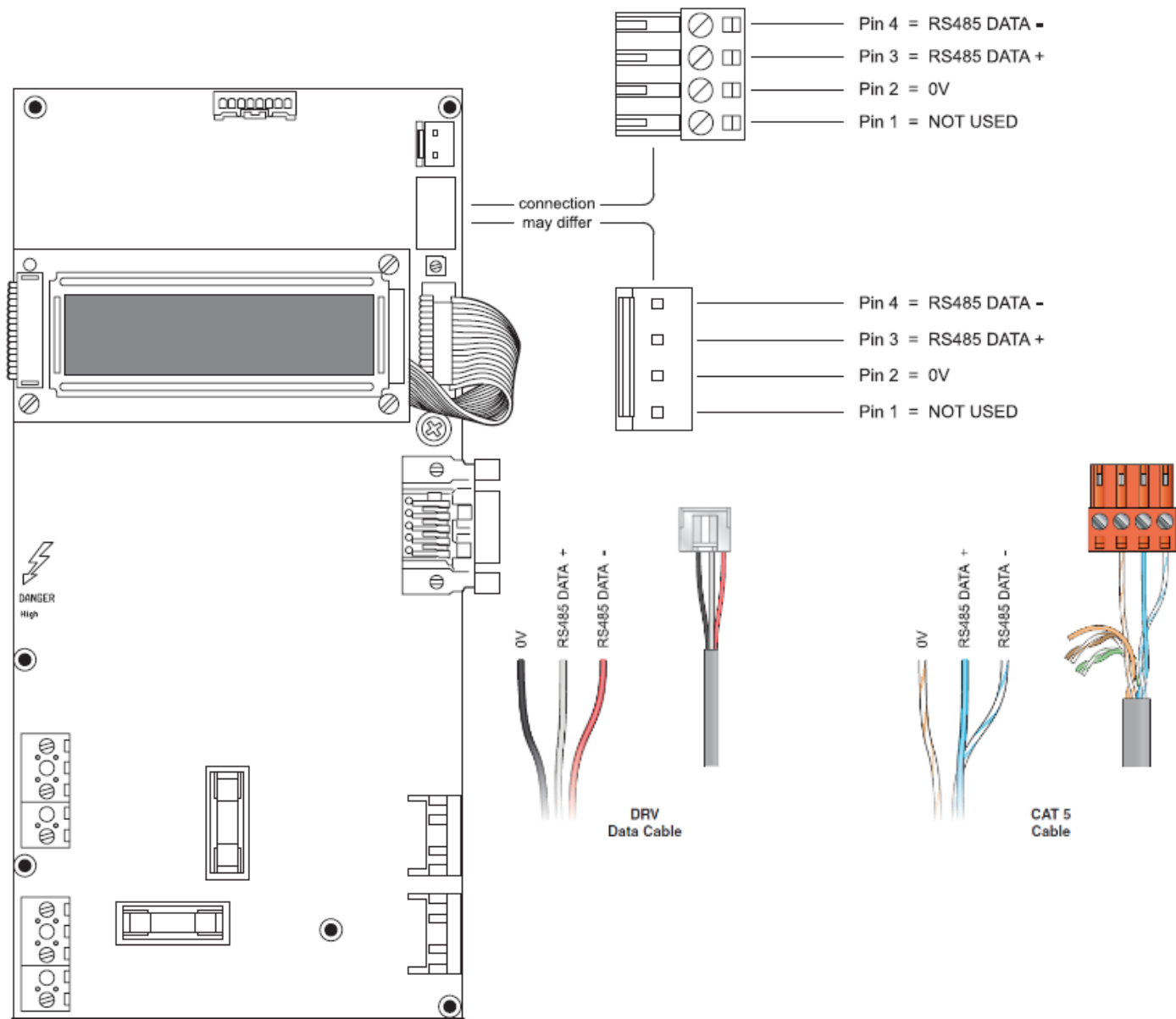
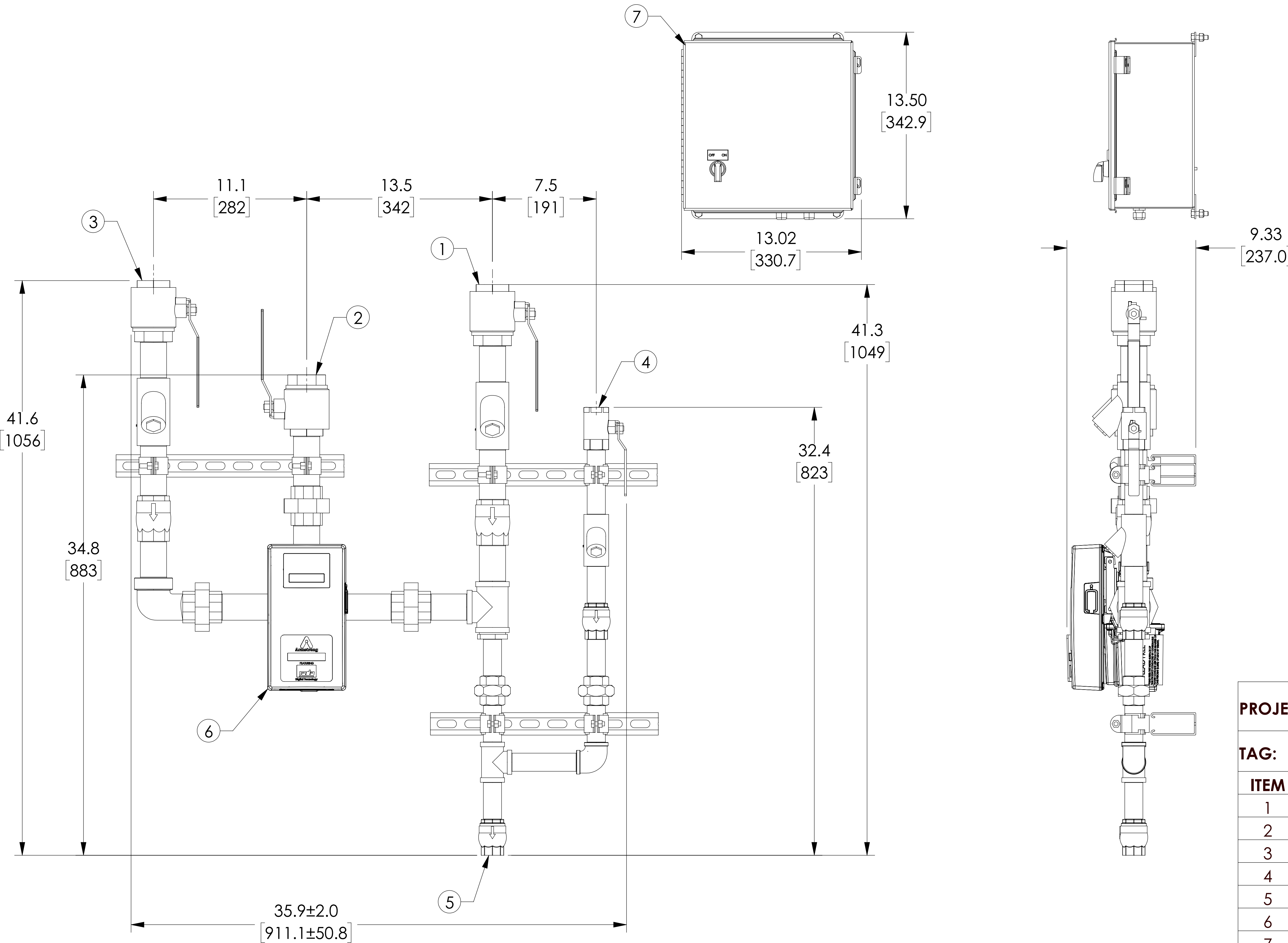


Figure 14: DRV Modbus/SAGE BS Board Connection





APPROVAL

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

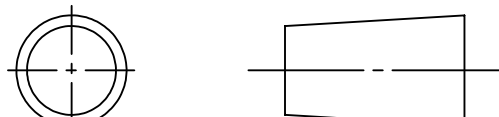
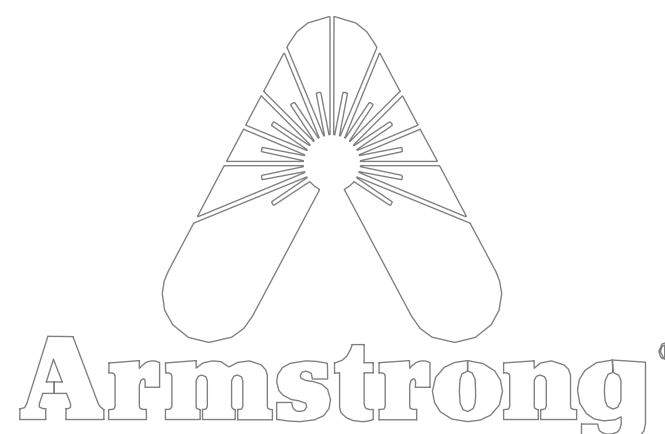
☐ APPROVED, PROCEED WITH FABRICATION

☐ APPROVED AS NOTED, PROCEED WITH FABRICATION IN ACCORDANCE WITH COMMENTS

☐ DISAPPROVED, DO NOT FABRICATE

- NOTES:
- ARMSTRONG PART NUMBER: D86391
  - ALL DIMENSIONS +/-1 [25] UNLESS OTHERWISE SHOWN
  - COPMLETE ASSEMBLY LEAD FREE COMPLIANT - THE WETTED SURFACE OF THIS PRODUCT CONTACTED BY CONSUMABLE WATER CONTAINS LESS THAN ONE QUARTER OF ONE PERCENT (0.25%) OF LEAD BY WEIGHT
  - PACKAGE INCLUDES ALL REQUIRED INLET CHECK VALVES AND STRAINERS ON DOMESTIC SIDE

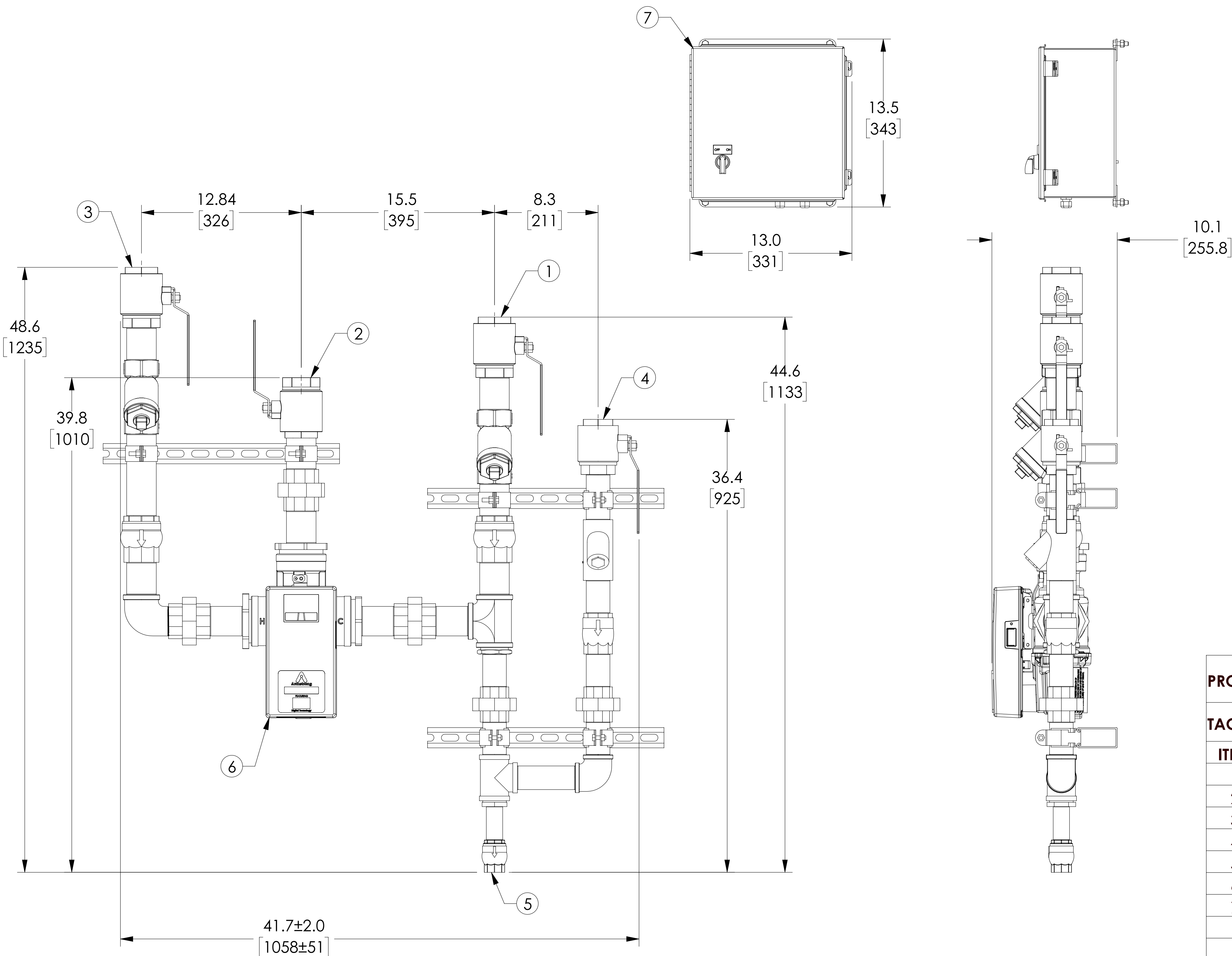
PROJECT DESCRIPTION:		
TAG:		
ITEM	DESCRIPTION	CONNECTION
1	COLD WATER INLET	1-1/2" NPT
2	MIXED WATER OUTLET	1-1/2" NPT
3	HOT WATER INLET	1-1/2" NPT
4	RECIRC RETURN INLET	1" NPT
5	RETURN TO HEATER	1" NPT
6	DRV40	1-1/2" NPT
7	ELECTRICAL PANEL	110VAC @ 1.2A
	ITEM	
	PIPING	COPPER TYPE "L"

				ARMSTRONG INTERNATIONAL	
DO NOT SCALE DRAWING				Copyright © 2010 ARMSTRONG INTERNATIONAL, INC.	
TOLERANCES UNLESS OTHERWISE SPECIFIED				DMC40BS FLEX 1-1/2 NPT 1-1/2 NPT 1 NPT	
DIMENSIONING ENGLISH [mm]					
FRACTIONAL ± 1/64					
ANGULAR: ± 2					

APPROVAL

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

- ☐ APPROVED, PROCEED WITH FABRICATION
- ☐ APPROVED AS NOTED, PROCEED WITH FABRICATION IN ACCORDANCE WITH COMMENTS
- ☐ DISAPPROVED, DO NOT FABRICATE



PROJECT DESCRIPTION:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	COLD WATER INLET	2" NPT
2	MIXED WATER OUTLET	2" NPT
3	HOT WATER INLET	2" NPT
4	RECIRC RETURN INLET	1-1/2" NPT
5	RETURN TO HEATER	1" NPT
6	DRV50	2" NPT
7	ELECTRICAL PANEL	110VAC @ 1.2A
	ITEM	
	PIPING	COPPER TYPE "L"

NOTES:

1. ARMSTRONG PART NUMBER: D86394
2. ALL DIMENSIONS +/-1 [25] UNLESS OTHERWISE SHOWN
3. COPMLETE ASSEMBLY LEAD FREE COMPLIANT - THE WETTED SURFACE OF THIS PRODUCT CONTACTED BY CONSUMABLE WATER CONTAINS LESS THAN ONE QUARTER OF ONE PERCENT (0.25%) OF LEAD BY WEIGHT
4. PACKAGE INCLUDES ALL REQUIRED INLET CHECK VALVES AND STRAINERS ON DOMESTIC SIDE

<div><div><div><div></div><div></div></div><div>DO NOT SCALE DRAWING</div><div>TOLERANCES UNLESS OTHERWISE SPECIFIED</div><div>DIMENSIONING ENGLISH [mm]</div><div>FRACTIONAL ± 1/64</div><div>ANGULAR: ± 2</div><div>DECIMAL .XXXX ± .0005 .010 .XXX ± .005 .010 .XX ± .015 .10 .X ± .3</div></div><div><div><div></div><div></div></div><div>Armstrong®</div></div></div>	<div><div>ARMSTRONG INTERNATIONAL</div><div>Copyright © 2010 ARMSTRONG INTERNATIONAL, INC.</div><div>DMC50BS FLEX 2 NPT 2 NPT 1-1/2 NPT</div></div>		MATERIAL		SHEET 1 OF 1	
	DRAWN Lucas Wilkins		DATE 08/10/2018		REV A	
	RELEASED		CN52129		DWG. SALES	