ARMSTRONG NANOBUBBLE GENERATOR

SYSTEM SOLUTION FOR SCALE REMOVAL AND INHIBITION

The Nanobubble Generator is a proven solution for the inhibition and removal of scale in hot water systems. This patented technology is easily installed, has no moving parts, requires no maintenance or additional electrical inputs, and uses no chemicals.

Whether it's on a heat exchanger or strategically placed within the hot water piping infrastructure to address the entire system, the Nanobubble Generator significantly reduces scale, which improves the overall health of the hot water system and drives operational efficiencies, leading to a smaller carbon footprint.

Armstrong Nanobubble Generator Model ANG25

Armstrong Nanobubble Generator Model ANG80

NSF

Certified to
NSF/ANSI/CAN 61

Designs, materials, weights, and performance ratings are approximate and subject to change without notice. Visit **armstrong**international.com for the most up-to-date information.

Armstrong

ARMSTRONG NANOBUBBLE GENERATOR

OPERATING RANGES

Armstrong Nanobubble Generator - Recommended Operating Ranges													
3/4" x 1-1/2"		1" x 2"		1-1/2" x 2-1/2"		2" x 3"		3" x 4"		4" x 6"		6" x 8"	
ANG20		ANG25		ANG40		ANG50		ANG80		ANG100		ANG150	
GPM	Pressure Drop (psi)	GPM	Pressure Drop (psi)	GPM	Pressure Drop (psi)	GPM	Pressure Drop (psi)	GPM	Pressure Drop (psi)	GPM	Pressure Drop (psi)	GPM	Pressure Drop (psi)
1.1	2.5	6.7	2.5	20.9	2.7	43.0	3.5	60.0	3.0	150.0	2.8	350.0	3.2
1.4	3.1	8.3	3.1	26.5	3.4	46.0	3.9	70.0	3.4	175.0	3.3	400.0	3.7
1.7	3.8	10	3.8	32.1	4.1	50.0	4.4	80.0	3.9	200.0	3.8	450.0	4.2
1.9	4.4	11.7	4.4	35	4.5	53.0	4.6	90.0	4.4	225.0	4.2	500.0	4.6
2.2	5.0	13.3	5	37.8	5	56.0	4.8	100.0	4.9	250.0	4.7	550.0	5.1
2.5	5.6	15	5.6	39.3	5.3	60.0	5.0	110.0	5.4	275.0	5.2	600.0	5.5
2.8	6.3	16.7	6.3	40.6	5.7	63.0	5.3	120.0	5.9	300.0	5.6	650.0	6.0
3.1	6.9	17.5	6.6	42	6	66.0	5.8	130.0	6.4	325.0	6.1	700.0	6.5
3.3	7.5	18.3	6.9	43.5	6.4	70.0	6.3	140.0	6.9	350.0	6.6	750.0	6.9
3.6	8.1	20	7.5	44.9	6.8	73.0	6.5	150.0	7.4	375.0	7.0	800.0	7.4
3.7	8.4	21.7	8.1	46.3	7.1	76.0	7.0	160.0	7.9	400.0	7.5	850.0	7.8
3.9	8.8	22.5	8.4	47.7	7.5	80.0	7.5	170.0	8.4	425.0	8.0	900.0	8.3
4.0	9.0	23.3	8.8	49.1	8.1	83.0	7.7	180.0	8.9	450.0	8.4	950.0	8.8
4.2	9.4	25	9.4	52	8.2	86.0	8.2	190.0	9.4	475.0	8.9	1000.0	9.2
4.4	10.0	25.8	9.7	54.9	8.3	90.0	8.8	200.0	9.8	500.0	9.4	1050.0	9.7
4.6	10.4	26.7	10	57.7	9.3	93.0	9.4	210.0	10.3	525.0	9.8	1100.0	10.2
4.7	10.6	28.3	10.6	60.5	10.4	96.0	10.3	220.0	10.8	550.0	10.3	1150.0	10.6
5.0	11.3	30	11.3	63.4	11.4	100.0	12.5	230.0	11.3	575.0	10.8	1200.0	11.1

TECHNICAL SPECIFICATIONS

General			
Connection Size Options		¾” NPT Female	
		1” NPT Female	
		1-½” NPT Female	
		2” 150lb Flange	
		3” 150lb Flange	
		4” 150lb Flange	
		6” 150lb Flange	
Materials	ANG Unit	Type 316 Stainless Steel	
	ANG Sidestream	Stainless Steel Models ONLY: Piped components use Schedule 10 and Schedule 40 stainless steel	
Temperatures			
Maximum Operating Temperature		230°F (110°C)	
Pressures			
Maximum Operating Pressure		150 psi (15 bar)	
Maximum Allowable Pressure		200 psi (13.8 bar)	
Pressure Drop Across Model		Recommended Max. Pressure Drop: 15 psi (1 bar)	Recommended Min. Pressure Drop: 5 psi (0.35 bar)
Certifications and Compliance			
NSF/ANSI/CAN 61		Certified	

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Armstrong

ARMSTRONG NANOBUBBLE GENERATOR

WRITTEN SPECIFICATIONS

Category: Water Processing Equipment

Type: Nanobubble Generator

Model: ANG

1.0 General

1.1 Nanobubble Generator shall have an inlet at one end, an outlet at the opposite end, and a conditioning element between the inlet and outlet.

1.2 Nanobubble Generator shall be built with either threaded or flanged connections for either sidestream or inline installation.

1.3 Nanobubble Generator shall be constructed of 316L stainless steel.

1.4 Nanobubble Generator shall be capable of producing nanobubbles sized at 100nm.

1.5 Nanobubble Generator shall function as a static mixer and shall not require electrical components.

2.0 Nanobubble Generator shall have the following operational specifications:

2.1 Flow rate of 1 to 1,150 GPM (4,353 LPM) based on sizing criteria per model

2.2 Maximum 15 psig (1 barg) drop

2.3 Water operating pressure of 5 - 150 psig (0.35 - 10.3 barg)

2.4 Maximum allowable water pressure of 200 psig (13.4 barg)

2.5 Required velocity of 2 - 15 FPS (0.6 - 4.5 MPS)

3.0 Nanobubble Generator shall be built to ASME Section IV B31.1, B31.3.

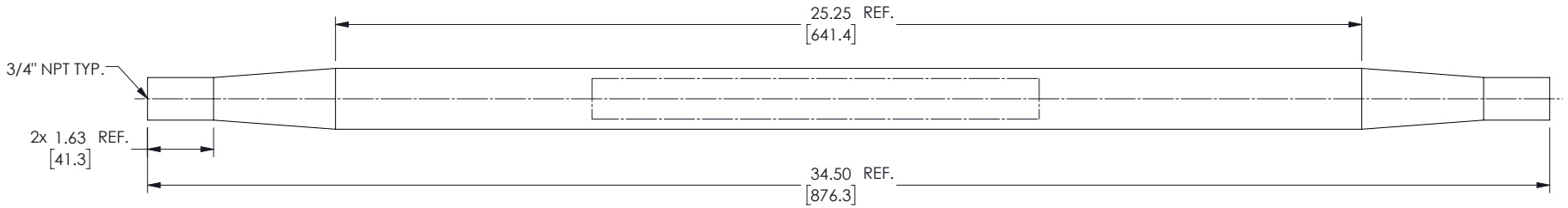
4.1 Nanobubble Generator shall carry a 5-year warranty.

Designs, materials, weights, and performance ratings are approximate and subject to change without notice. Visit **armstrong**international.com for the most up-to-date information.

APPROVAL

BY:_____ DATE:_____

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



NOTES:
1. MAX. WATER PRESSURE 150 PSI [10.3].

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
RELEASED		

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ANG20 3/4 NPT X 1-1/2 OD SS 316

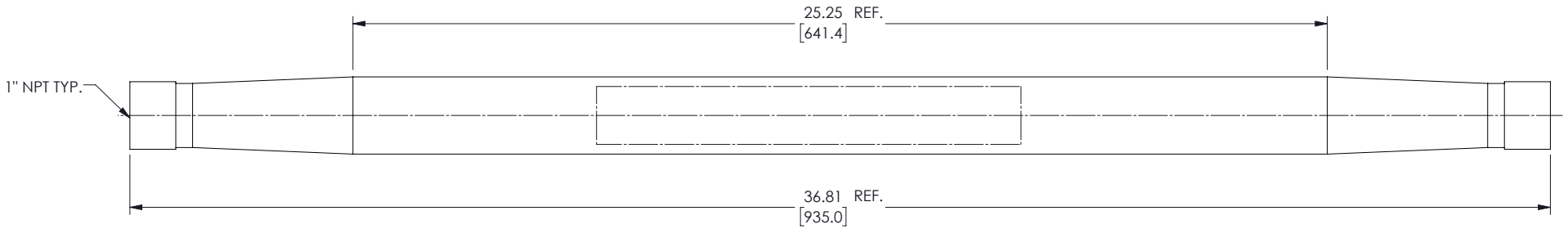
MATERIAL
CN85171

SHEET 1 OF 1
REV A
DWG.
SALES

APPROVAL

BY:_____ DATE:_____

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



NOTES:
1. MAX. WATER PRESSURE 150 PSI [10.3].

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DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX	± .0005	-----
	.XXX	± .005	.010
	.XX	± .015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
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ANG25 1 NPT X 2 OD SS 316

MATERIAL
SHEET 1 OF 1
CN85171 REV A DWG. SALES

APPROVAL

BY: _____ DATE: _____

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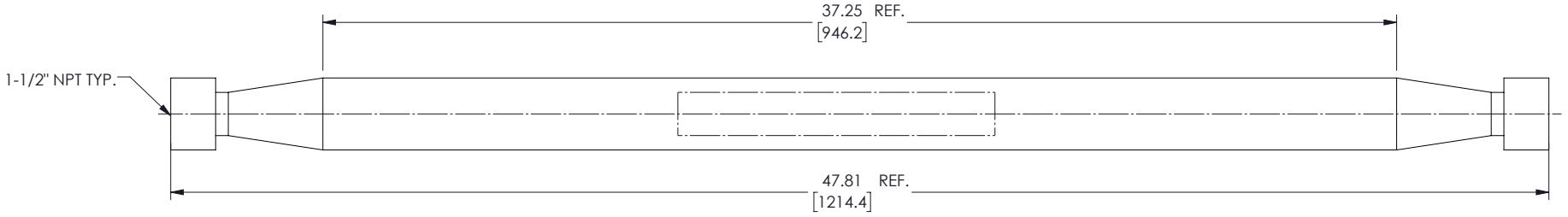

NOTES:
1. MAX. WATER PRESSURE 150 PSI [10.3].

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX	± .0005	-----
	.XXX	± .005	.010
	.XX	± .015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
RELEASED		1/5/2024

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ANG40 1-1/2 NPT X 2-1/2 OD SS 316

MATERIAL

SHEET 1 OF 1

REV A

DWG.

SALES

APPROVAL

BY:_____ DATE:_____

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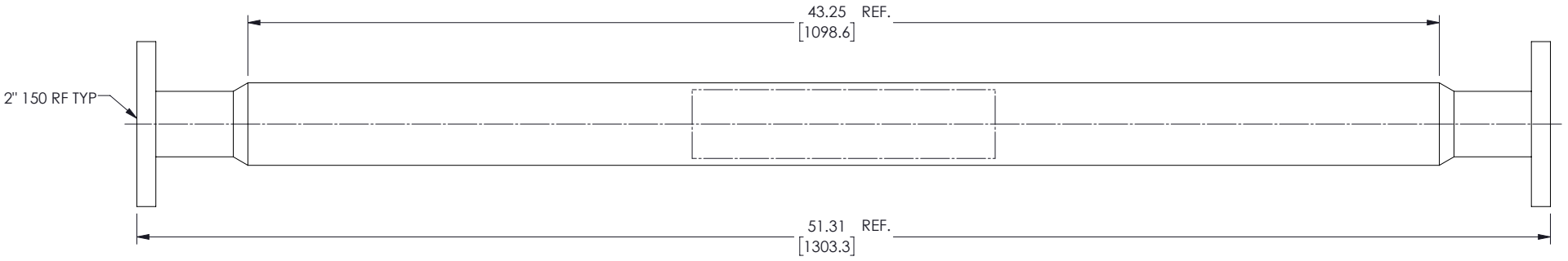

NOTES:
1. MAX. WATER PRESSURE 150 PSI [10.3].

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
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	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
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ANG50 2 150 RF X 3 OD SS 316

MATERIAL
SHEET 1 OF 1
CN85171
REV A
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SALES

APPROVAL

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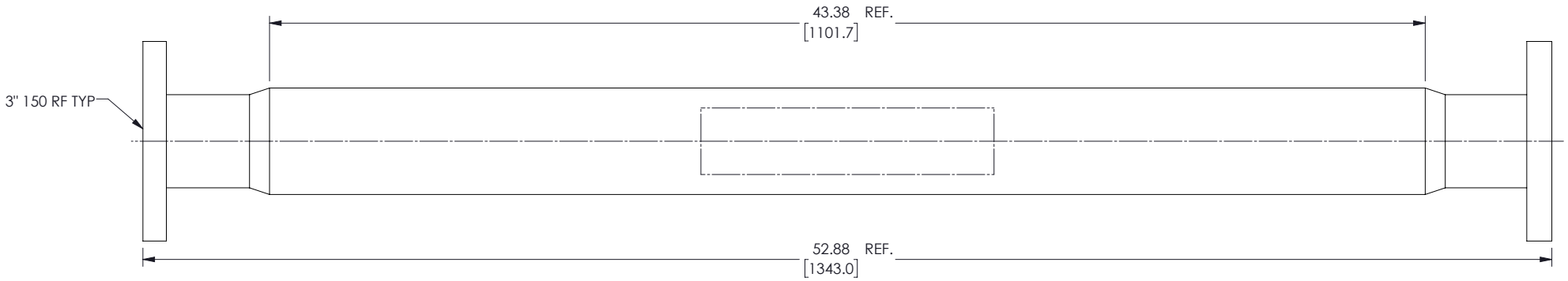

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FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
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	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
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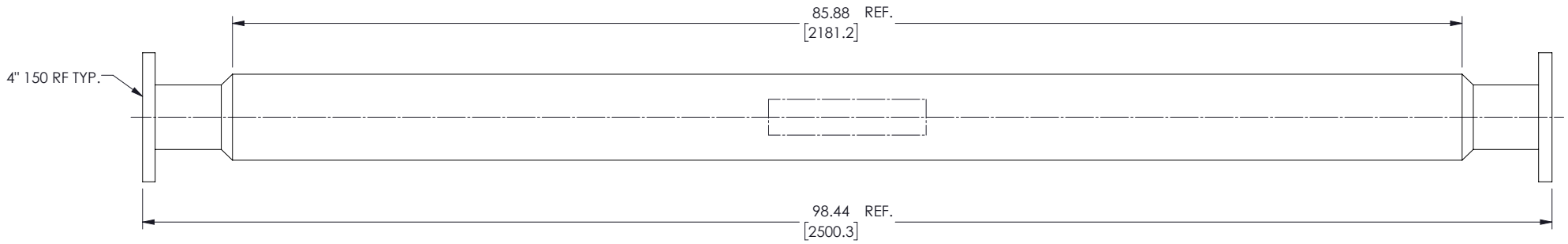
ANG80 3 150 RF X 4 OD SS 316

MATERIAL
CN85171
REV A
DWG.
SALES
SHEET 1 OF 1

APPROVAL

BY:_____ DATE:_____

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



NOTES:
1. MAX. WATER PRESSURE 150 PSI [10.3].

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
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ANG100 4 150 RF X 6 OD SS 316

MATERIAL

SHEET 1 OF 1

CN85171 REV A DWG. SALES

APPROVAL

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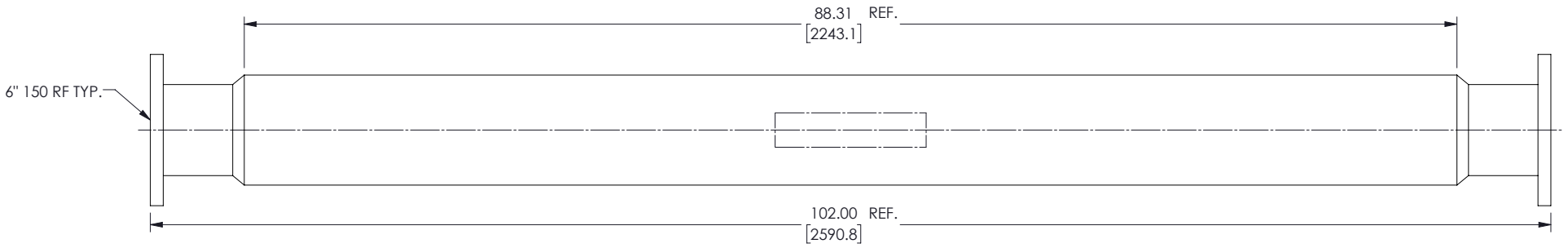

NOTES:
1. MAX. WATER PRESSURE 150 PSI [10.3].

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX	± .0005	-----
	.XXX	± .005	.010
	.XX	± .015	.10
	.X	---------	.3

	NAME	DATE
DRAWN	Ross Pulfer	12/14/2023
RELEASED		

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ANG150 6 150 RF X 8 OD SS 316

MATERIAL

SHEET 1 OF 1

CN85171 REV A DWG. SALES

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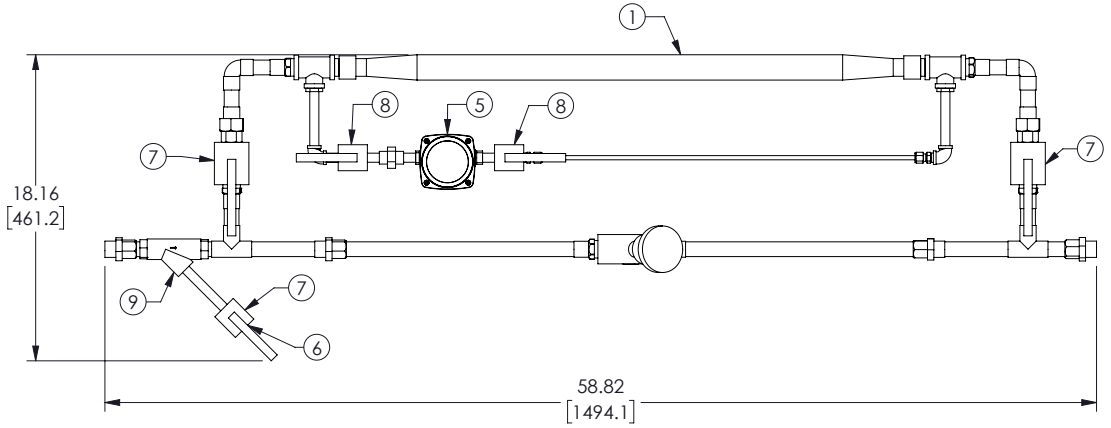

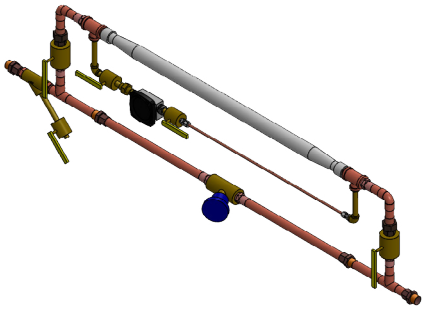

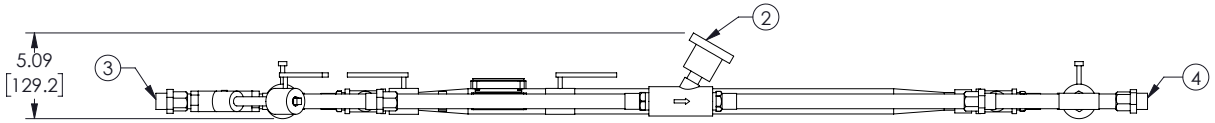

PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG20 (1)	3/4" NPT
2	BALANCE VALVE (1)	3/4" NPT
3	WATER INLET	3/4" SWT
4	WATER OUTLET	3/4" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/4" NPT
7	BALL VALVE (2) & (1)	3/4" & 1/4" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	3/4" NPT
	ITEM	**MATERIAL**
	PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195377

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	06/26/2024
RELEASED		4/22/2025

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ANG20PP-CPR 3/4 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

APPROVAL

BY: _____ DATE: _____

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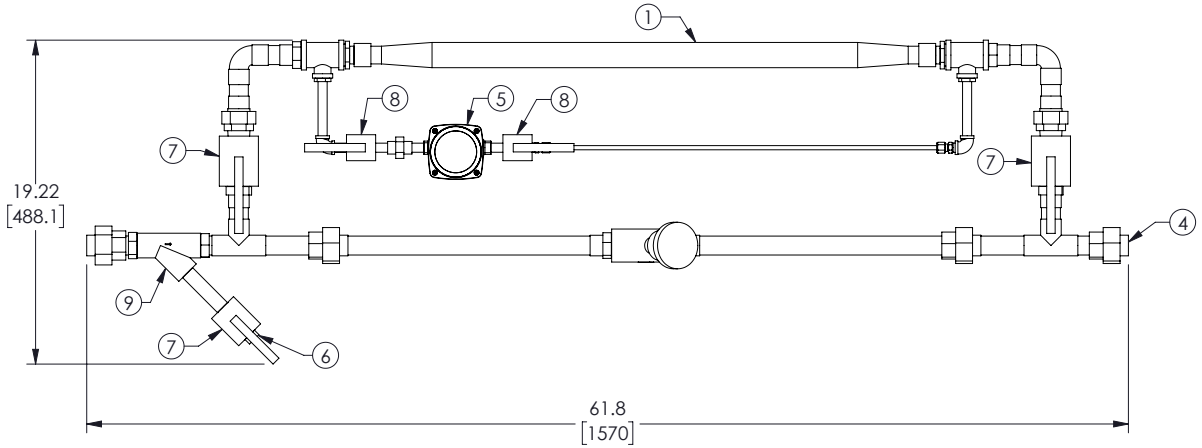

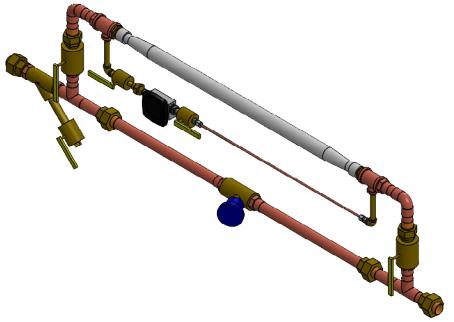

PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG20 (1)	3/4" NPT
2	BALANCE VALVE (1)	1" NPT
3	WATER INLET	1" SWT
4	WATER OUTLET	1" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2) & (1)	1" NPT & 1/2" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1" NPT

ITEM	MATERIAL
PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195378

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	06/28/2024
RELEASED		12/19/2024

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ANG20PP-CPR 1 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

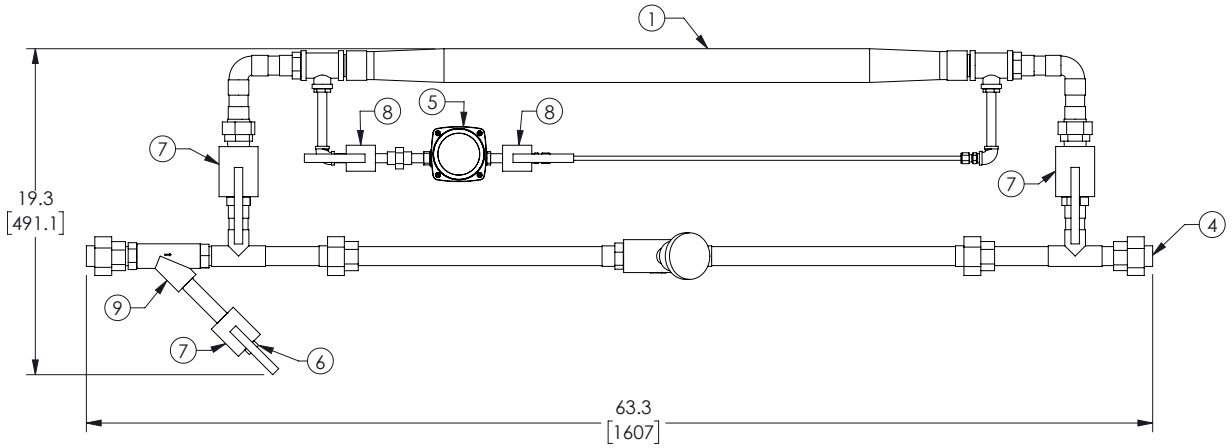
APPROVAL

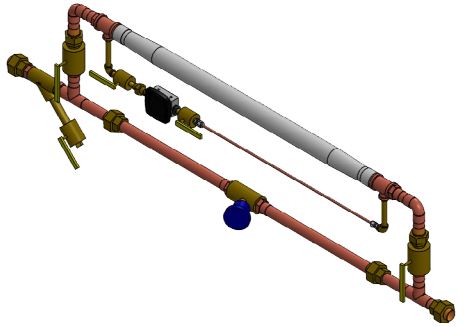
BY: _____ DATE: _____

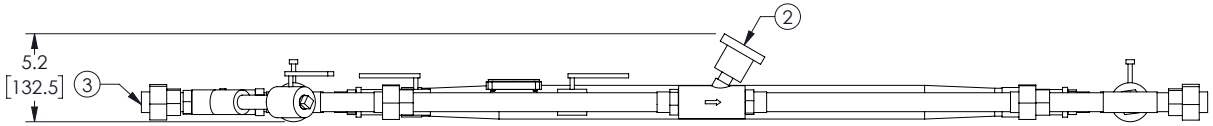
☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE







PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG25 (1)	1" NPT
2	BALANCE VALVE (1)	1" NPT
3	WATER INLET	1" SWT
4	WATER OUTLET	1" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2) & (1)	1" NPT & 1/2" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1" NPT
	ITEM	**MATERIAL**
	PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195379

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	07/02/2024
RELEASED		4/22/2025

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ANG25PP-CPR 1 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

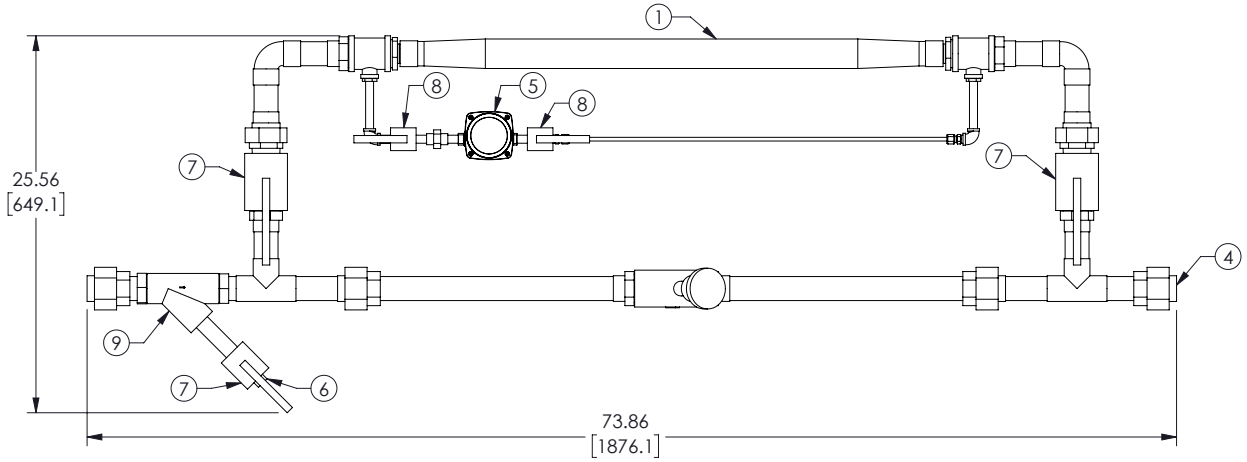
APPROVAL

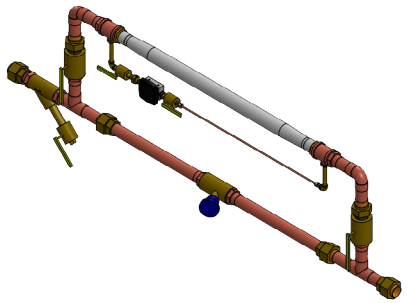
BY: _____ DATE: _____

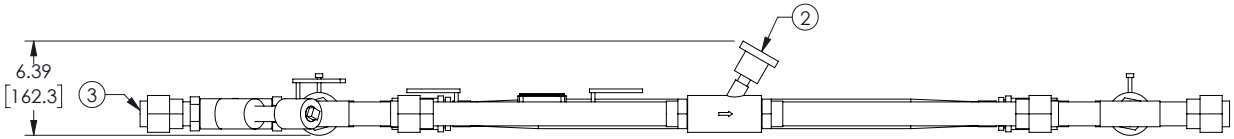
☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE







PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG25 (1)	1" NPT
2	BALANCE VALVE (1)	1-1/2" NPT
3	WATER INLET	1-1/2" SWT
4	WATER OUTLET	1-1/2" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	3/4" NPT
7	BALL VALVE (2) & (1)	1-1/2" NPT & 3/4" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1-1/2" NPT
	ITEM	**MATERIAL**
	PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195381

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX	± .0005	-----
	.XXX	± .005	.010
	.XX	± .015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	07/02/2024
RELEASED		4/22/2025

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ANG25PP-CPR 1-1/2 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

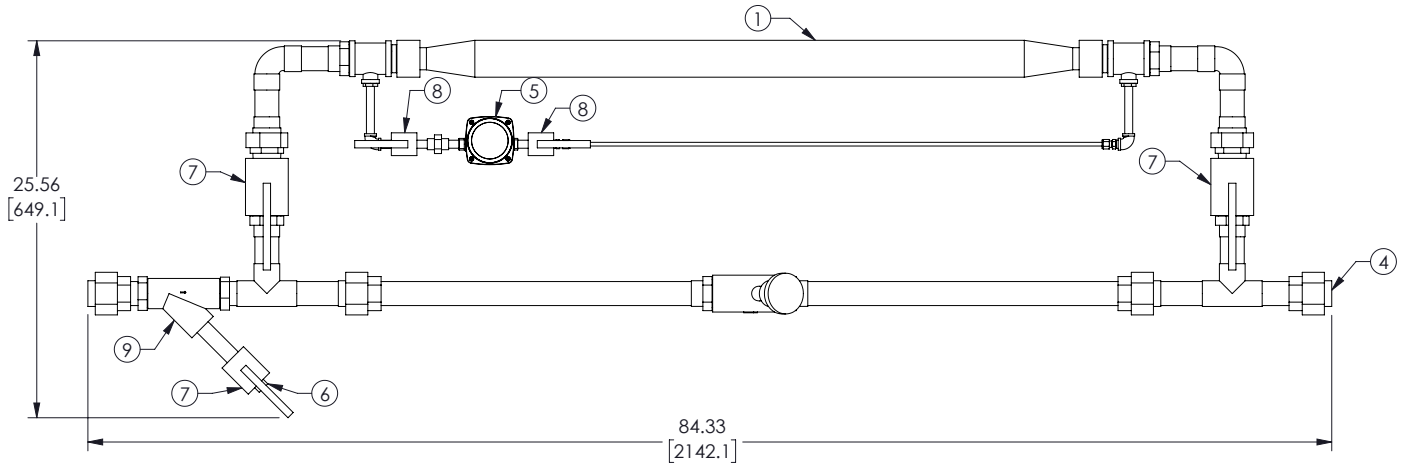
APPROVAL

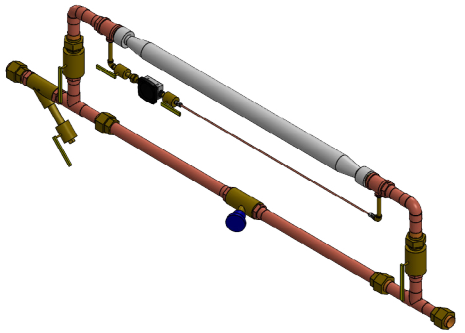
BY: _____ DATE: _____

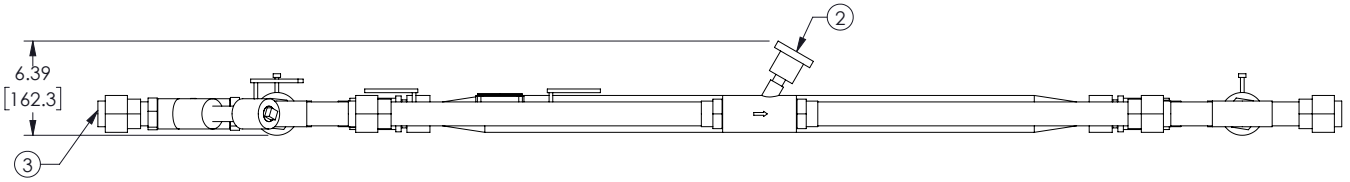
☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE







PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG40 (1)	1-1/2" NPT
2	BALANCE VALVE (1)	1-1/2" NPT
3	WATER INLET	1-1/2" SWT
4	WATER OUTLET	1-1/2" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	3/4" NPT
7	BALL VALVE (2) & (1)	1-1/2" NPT & 3/4" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1-1/2" NPT
	ITEM	**MATERIAL**
	PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D201146

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	11/08/2024
RELEASED		12/19/2024

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ANG40PP-CPR 1-1/2 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

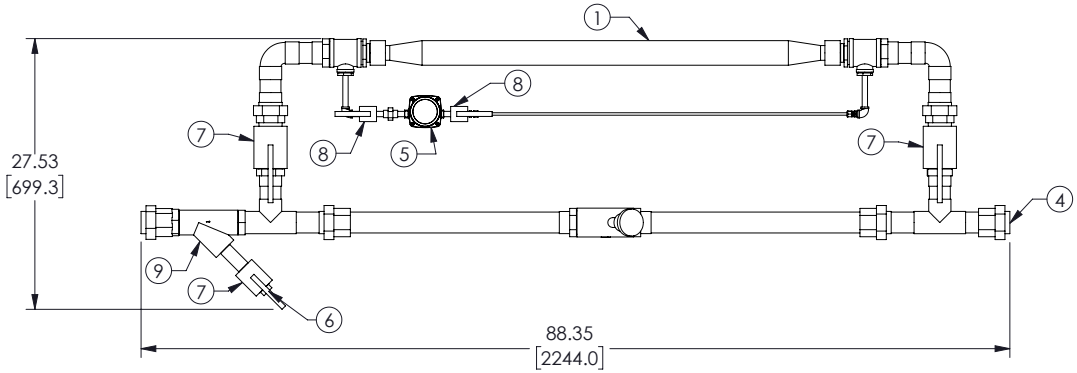
APPROVAL

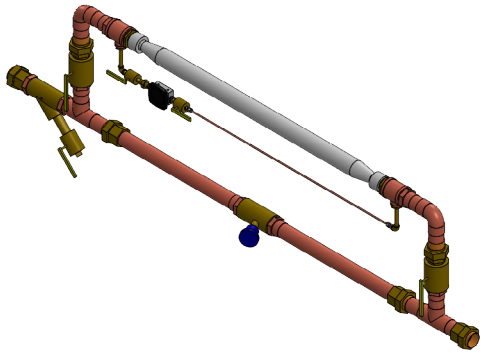
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG40 (1)	1-1/2" NPT
2	BALANCE VALVE (1)	2" NPT
3	WATER INLET	2" SWT
4	WATER OUTLET	2" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1" NPT
7	BALL VALVE (2) & (1)	2" NPT & 1" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	2" NPT
	ITEM	**MATERIAL**
	PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D201147

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	11/08/2024
RELEASED		12/19/2024

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ANG40PP-CPR 2 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

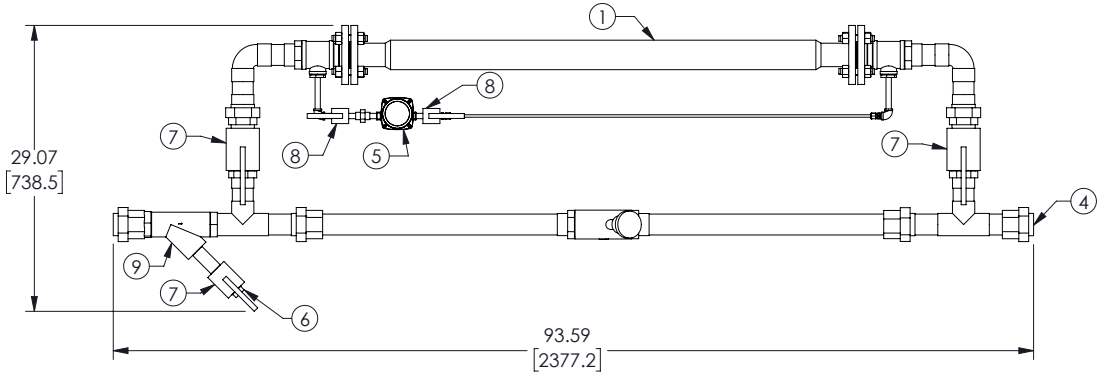
APPROVAL

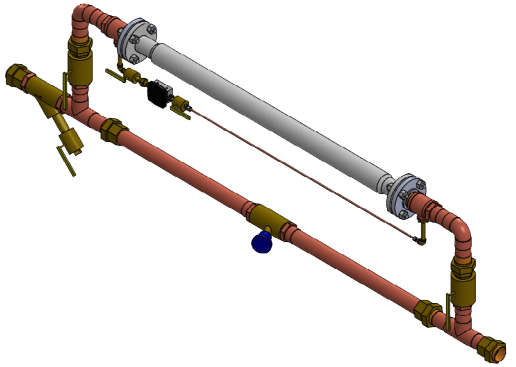
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG50 (1)	2" 150 RF
2	BALANCE VALVE (1)	2" NPT
3	WATER INLET	2" SWT
4	WATER OUTLET	2" SWT
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1" NPT
7	BALL VALVE (2) & (1)	2" NPT & 1" NPT
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	2" NPT

ITEM	MATERIAL
PIPING	COPPER TYPE "L"

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195382

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	07/02/2024
RELEASED		12/19/2024

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ANG50PP-CPR 2 CPR PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0

DWG. SALES

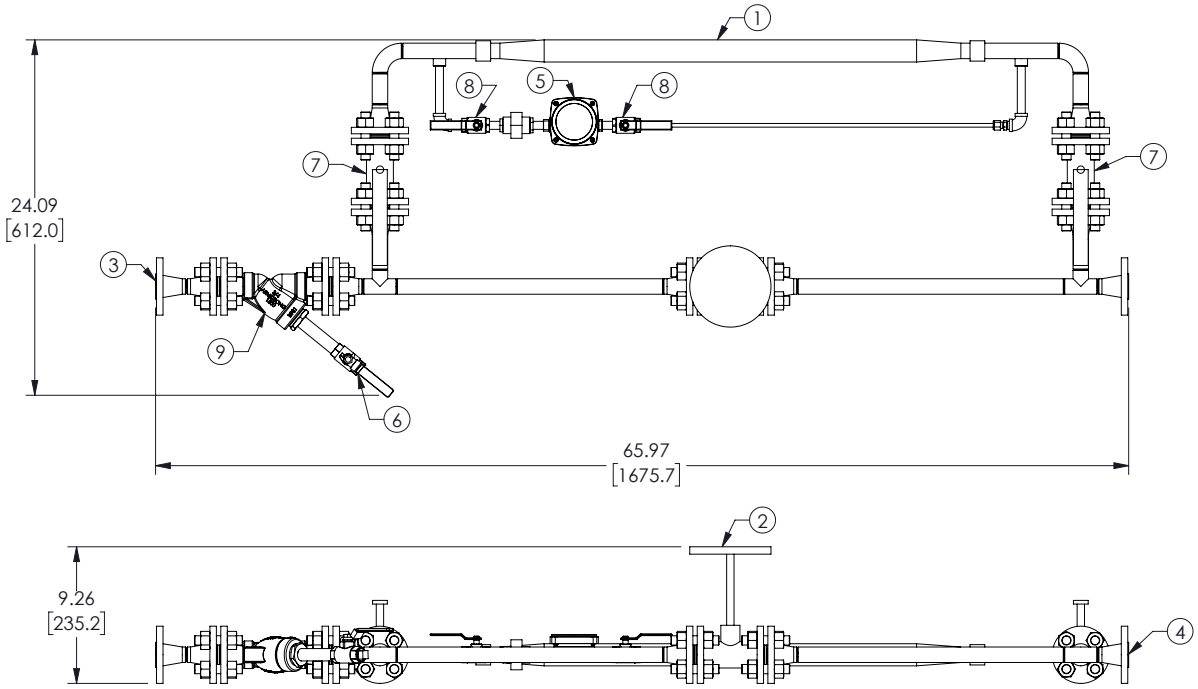
APPROVAL

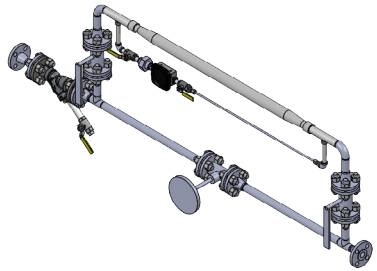
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:		
TAG:		
ITEM	DESCRIPTION	CONNECTION
1	ANG20 (1)	3/4" NPT
2	GLOBE VALVE (1)	3/4" 150RF
3	WATER INLET	3/4" 150RF
4	WATER OUTLET	3/4" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	3/4" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	3/4" 150RF
	ITEM	MATERIAL
	PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195384
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	07/08/2024
RELEASED		12/18/2024

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ANG20PP-SS 3/4 SS PREPIPED WITH BYPASS

MATERIAL CN90513 REV 0 DWG. SALES

SHEET 1 OF 1

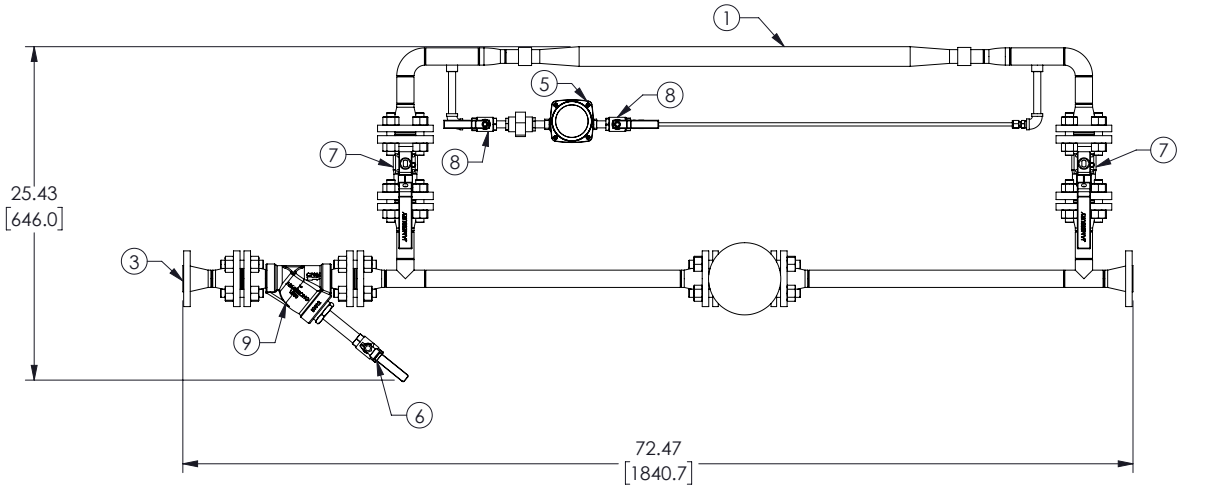
APPROVAL

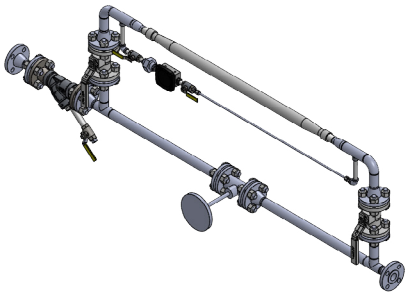
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG20 (1)	3/4" NPT
2	GLOBE VALVE (1)	1" 150RF
3	WATER INLET	1" 150RF
4	WATER OUTLET	1" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	1" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1" 150RF
	ITEM	**MATERIAL**
	PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195385
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	07/25/2024
RELEASED		12/18/2024

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ANG20PP-SS 1 SS PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

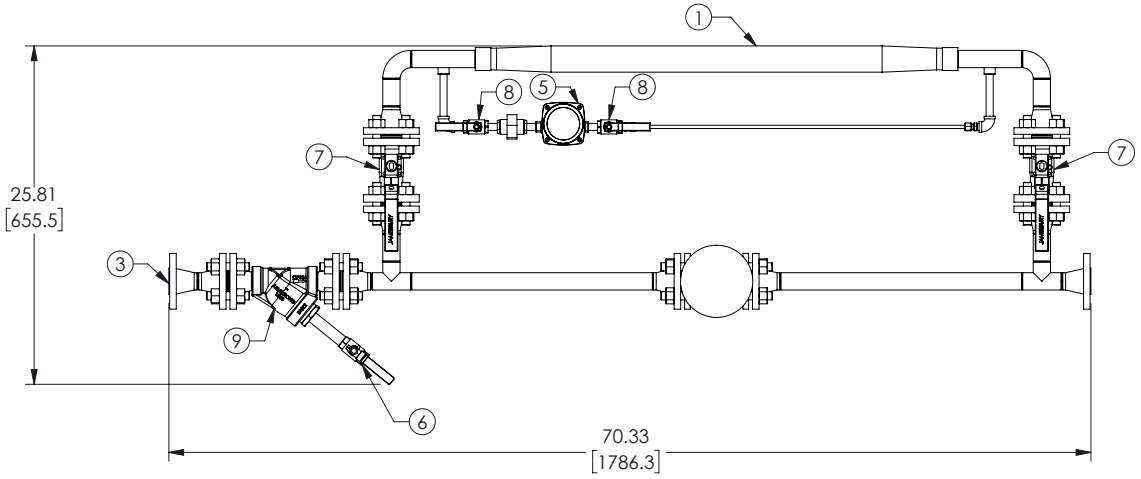
APPROVAL

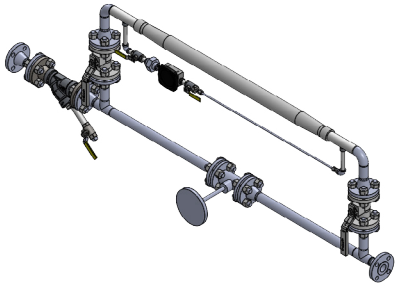
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:		
TAG:		
ITEM	DESCRIPTION	CONNECTION
1	ANG25 (1)	1" NPT
2	GLOBE VALVE (1)	1" 150RF
3	WATER INLET	1" 150RF
4	WATER OUTLET	1" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	1" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1" 150RF
	ITEM	MATERIAL
	PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195386
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	08/01/2024
RELEASED		12/18/2024

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ANG25PP-SS 1 SS PREPIPED WITH BYPASS

MATERIAL | SHEET 1 OF 1

REV 0 | DWG. SALES

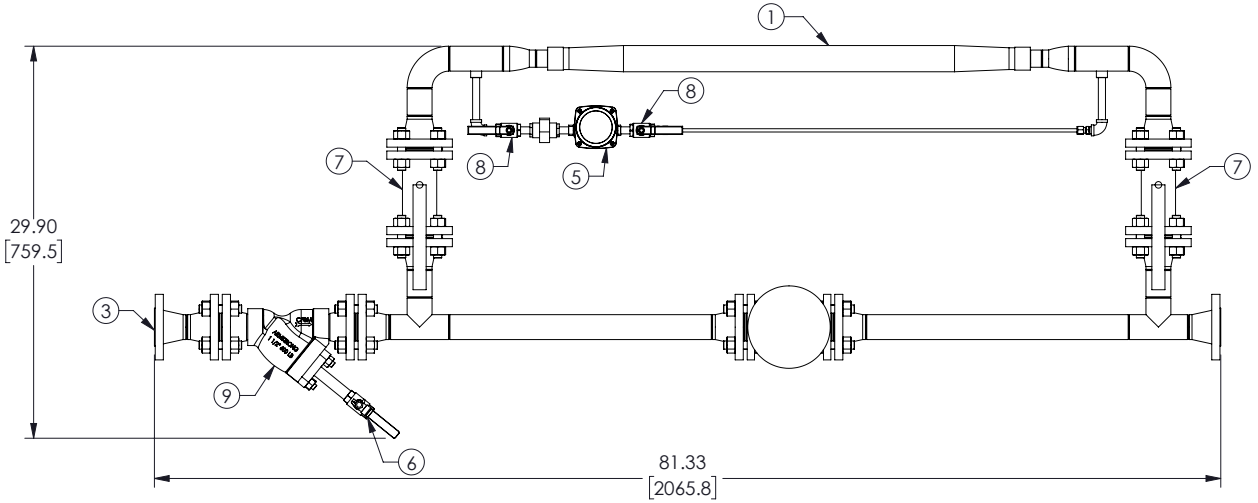
APPROVAL

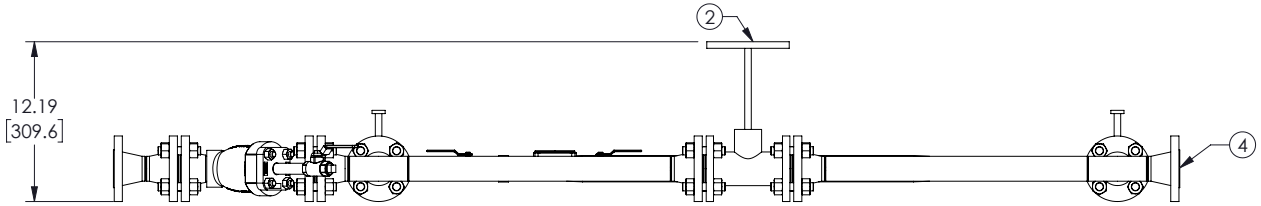
BY: _____ DATE: _____

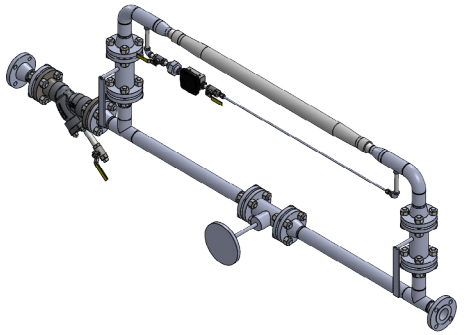
☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE







PROJECT NAME:		
TAG:		
ITEM	DESCRIPTION	CONNECTION
1	ANG25 (1)	1" NPT
2	GLOBE VALVE (1)	1-1/2" 150RF
3	WATER INLET	1-1/2" 150RF
4	WATER OUTLET	1-1/2" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	1-1/2" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1-1/2" 150RF
	ITEM	MATERIAL
	PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195387
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX	± .0005	-----
	.XXX	± .005	.010
	.XX	± .015	.10
	.X	---------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	08/01/2024
RELEASED		12/18/2024

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ANG25PP-SS 1-1/2 SS PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

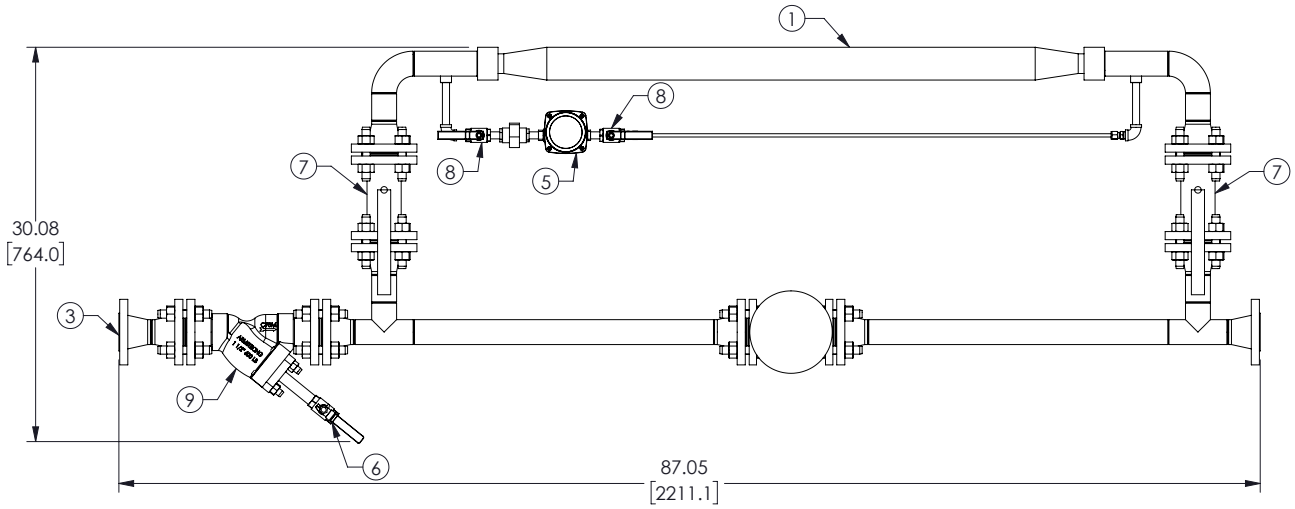
APPROVAL

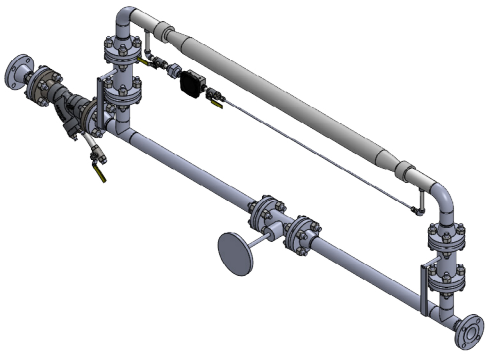
BY: _____ DATE: _____

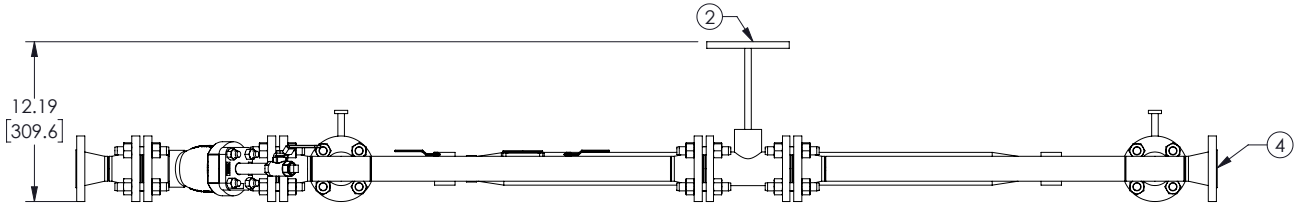
☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE







PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG40 (1)	1-1/2" NPT
2	GLOBE VALVE (1)	1-1/2" 150RF
3	WATER INLET	1-1/2" 150RF
4	WATER OUTLET	1-1/2" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	1-1/2" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	1-1/2" 150RF

	ITEM	MATERIAL
	PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D201148
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	11/11/2024
RELEASED		12/18/2024

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ANG40PP-SS 1-1/2 SS PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

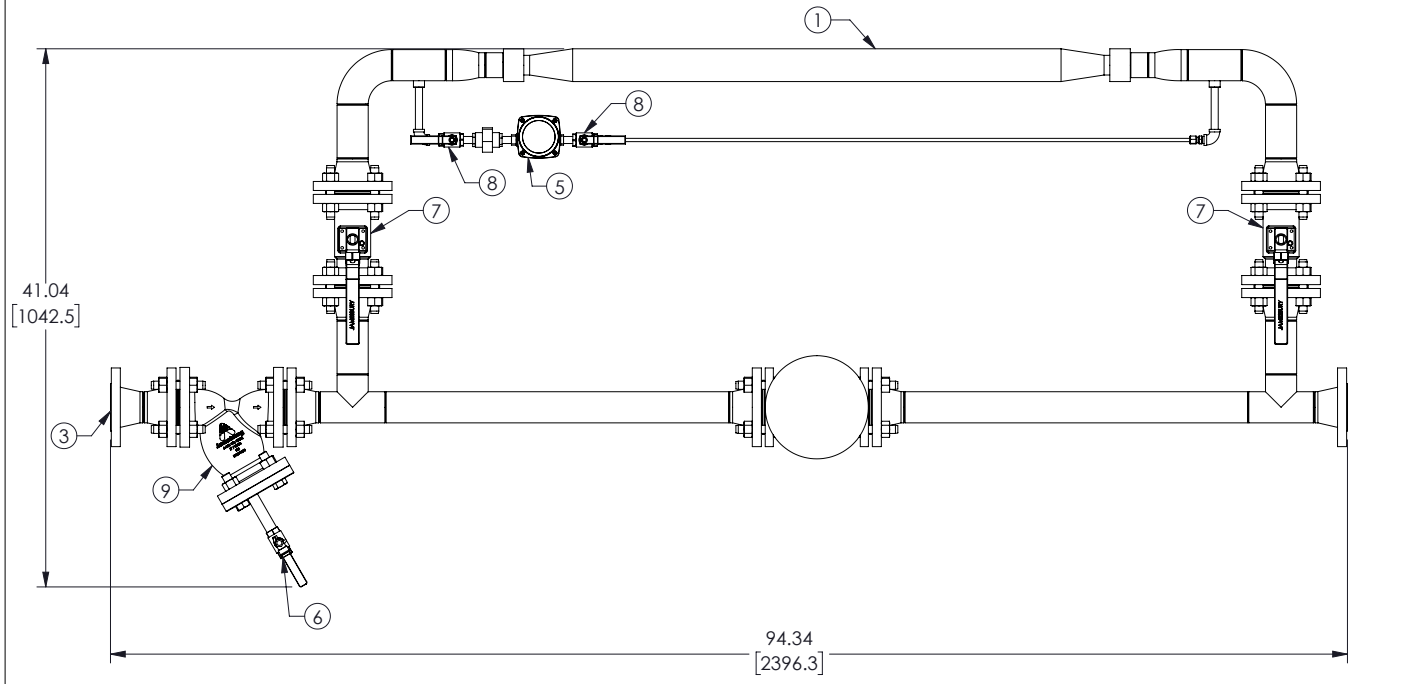
APPROVAL

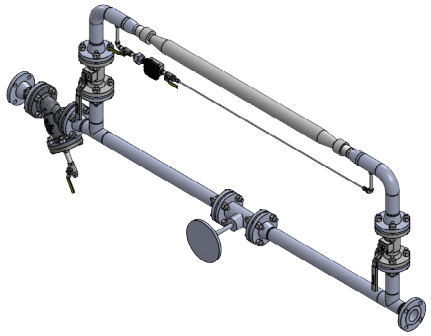
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:		
TAG:		
ITEM	**DESCRIPTION**	**CONNECTION**
1	ANG40 (1)	1-1/2" 150RF
2	GLOBE VALVE (1)	2" 150RF
3	WATER INLET	2" 150RF
4	WATER OUTLET	2" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	2" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	2" 150RF
	ITEM	**MATERIAL**
	PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D201149
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

Armstrong

	NAME	DATE
DRAWN	Ross Pulfer	11/11/2024
RELEASED		12/18/2024

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ANG40PP-SS 2 SS PREPIPED WITH BYPASS

MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES

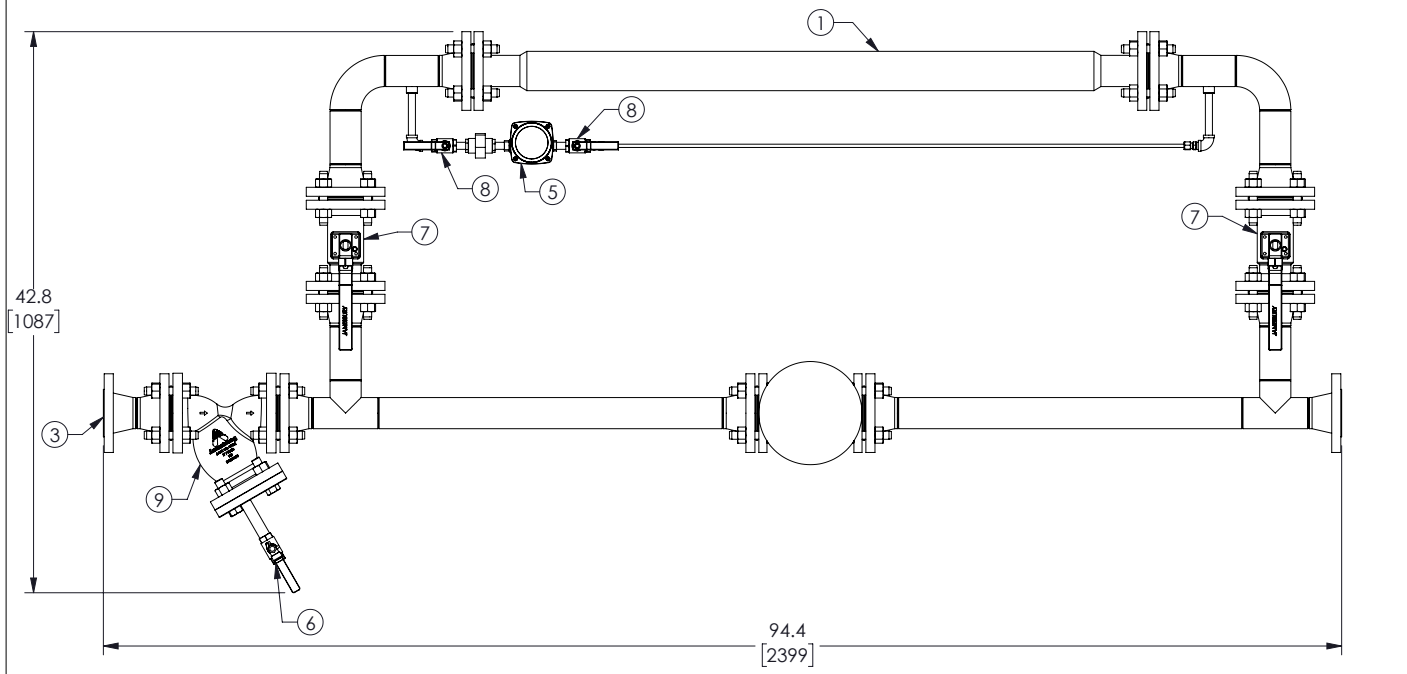
APPROVAL

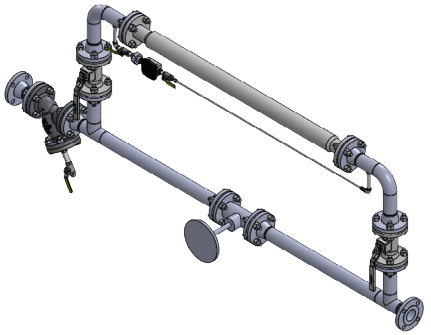
BY: _____ DATE: _____

☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	ANG50 (1)	2" 150RF
2	GLOBE VALVE (1)	2" 150RF
3	WATER INLET	2" 150RF
4	WATER OUTLET	2" 150RF
5	DIFFERENTIAL PRESSURE GAUGE (1)	1/4" NPT
6	BLOWDOWN (1)	1/2" NPT
7	BALL VALVE (2)	2" 150RF
8	BALL VALVE (2)	1/4" NPT
9	STRAINER (1)	2" 150RF

ITEM	MATERIAL
PIPING	SS TP316L

NOTES:

1. ALL DIMENSIONS +/-1[25] UNLESS OTHERWISE SPECIFIED
2. COMPLETE 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.
3. REFERENCE ARMSTRONG PART NUMBER: D195388
4. GLOBE VALVE TO BE ORIENTATED SUCH THAT INCOMING FLOW IS UNDER THE SEAT

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

		IN.	MM
DECIMAL	.XXXX ±	.0005	-----
	.XXX ±	.005	.010
	.XX ±	.015	.10
	.X	----------	.3

	NAME	DATE
DRAWN	Ross Pulfer	08/02/2024
RELEASED		12/18/2024

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MATERIAL

SHEET 1 OF 1

REV 0 DWG. SALES