

CONSTANTEMP® STEAM/WATER HEATER

INSTANTANEOUS WATER HEATER

Constantemp® steam/water heaters pack reliable, accurate performance into small spaces. The central operating component of the Constantemp® heater is a feed-forward blending valve, activated by a differential pressure-sensing head. Water is blended instantly, with virtually no lag in response times. Constantemp® features a helical coiled heat exchanger that operates with steam pressures between 2-15 psig to provide hot water within $\pm 3^{\circ}\text{F}$ of the outlet setpoint temperature. The range of on-demand water heaters are ideal for people-washing and process-heating applications.

Constantemp® heaters are sold as standard with a ductile iron heat exchanger, copper coil, and blending valve mounted onto a small frame. The largest unit available, capable of blending up to 120 gpm, is designed to fit through a small doorway, making Constantemp® an ideal solution for compact mechanical rooms.

For quick and simplified installation, Constantemp® heaters are also available in a skid-mounted configuration that includes pre-piped traps, strainers, a steam pressure gauge, and temperature gauges. The Constantemp® heater needs only to be connected to the steam, water, and condensate piping before it is ready to use. Users can take the guesswork out of pipe sizing, distance to the steam-reducing valve, and proper trap installation. All connections are flanged and easily accessible at the edge of the assembly.

For unique application requirements, Armstrong can custom design a complete system to suit your unique requirements. Get hot water fast with a Constantemp® steam/water heater engineered, manufactured, and assembled by the steam management experts at Armstrong International.



Constantemp® Base Unit Heater



Constantemp® Skid-Mounted Package Heater

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

CONSTANTEMP® STEAM/WATER HEATER

TECHNICAL SPECIFICATIONS

General			
Ambient Temperature		Minimum Ambient Temperature: 35°F (2°C)	Maximum Ambient Temperature: 122°F (50°C)
Installation Environment		Suitable for indoor use only	
Materials			
Piping (Steam/Condensate Lines)		Steel	
Piping (Water Lines)		Copper/Brass	
Exchanger Shell Material		Ductile Iron	
Exchanger Tube Material		Copper	
Connections			
E300L	Cold Water Inlet	2" Male NPT Connection	
	Mixed Water Outlet	2" Female NPT Connection	
	Steam Inlet	3" Class 150 Flange Connection	
	Condensate Outlet	1" Class 150 Flange Connection (Armstrong Steam Trap 813)	
E600L	Cold Water Inlet	2" Male NPT Connection	
	Mixed Water Outlet	2" Female NPT Connection	
	Steam Inlet	3" Class 150 Flange Connection	
	Condensate Outlet	1-1/2" Class 150 Flange Connection (Armstrong Steam Trap 814)	
E900L	Cold Water Inlet	2-1/2" Male NPT Connection	
	Mixed Water Outlet	2-1/2" Female NPT Connection	
	Steam Inlet	4" Class 150 Flange Connection	
	Condensate Outlet	1-1/2" Class 150 Flange Connection (Armstrong Steam Trap 815)	
E1200L	Cold Water Inlet	2-1/2" Male NPT Connection	
	Mixed Water Outlet	2-1/2" Female NPT Connection	
	Steam Inlet	4" Class 150 Flange Connection	
	Condensate Outlet	1-1/2" Class 150 Flange Connection (Armstrong Steam Trap 816)	
Pressures			
Water Inlet Supply Pressures		Maximum Water Pressure: 150 psig (10 barg)	
Steam Inlet Supply Pressures		Maximum Allowable Steam Pressure: 250 psig (17 barg)	
		Maximum Operating Steam Pressure: 15 psig (1 barg) - PRV required for pressure over 15psig (1 barg)	
Temperatures			
Adjustable Temperature Range	E300L	105°F - 150°F (41°C - 65C)	
	E600L, E900L, E1200L	105°F - 180°F (41°C - 82°C)	
Control Range		+ / - 3°F	

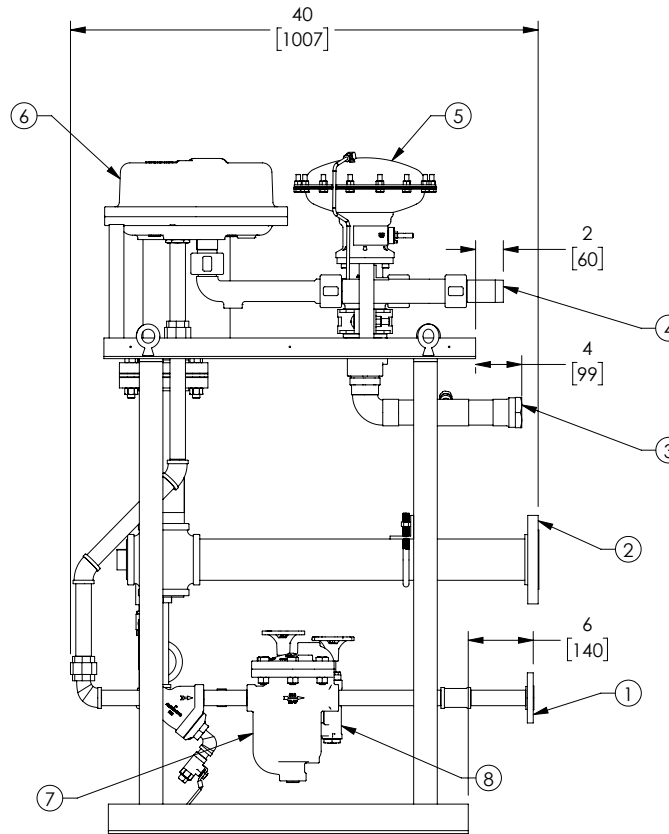
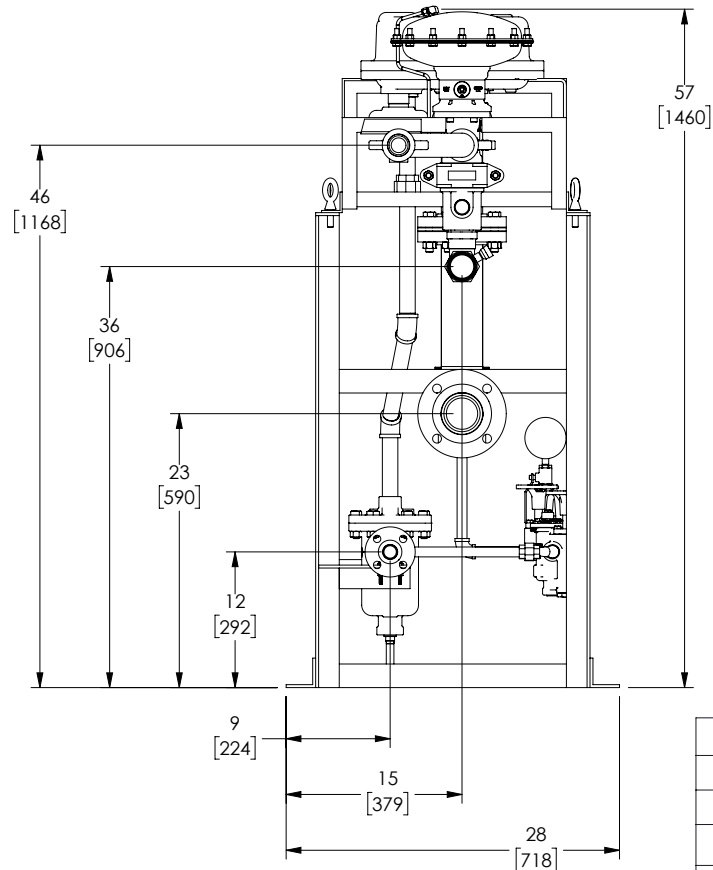
Designs, materials, weights, and performance ratings are approximate and subject to change without notice. Visit armstronginternational.com for the most up-to-date information.



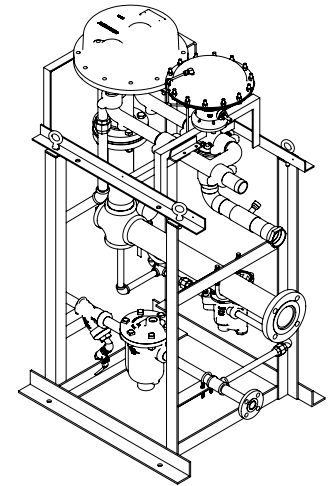
APPROVAL

BY: _____ DATE: _____

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



Part Number	Description	Call Out
U008958804	BLEND VALVE	5
A68609	EXCHANGER	6
C5318-14	813 STEAM TRAP	7
D500441	STEAM TRAP	8



CONSTANTEMP STEAM WATER HEATER
COMPACT PRE-PIPED FEEDFORWARD DESIGN

PROJECT NAME:			
TAG:			
ITEM	DISCRIPTION	QTY.	CONNECTION
1	CONDENSATE OUTLET	1	1" 150# FLG
2	STEAM INLET	1	3" 150# FLG
3	MIXED WATER OUTLET	1	2" FNPT
4	COLD WATER INLET	1	2" MNPT
ITEM	MATERIAL		
PIPING (STEAM/CONDENSATE)	STEEL		
PIPING (WATER)	COPPER/BRASS		
EXCHANGER SHELL MATL.	DUCTILE IRON		
EXCHANGER TUBE MATL.	COPPER		

NOTES:

- ALL DIMENSIONS +/- 3.0 [76] UNLESS OTHERWISE SHOWN.
- 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.

DO NOT SCALE DRAWING TOLERANCES UNLESS OTHERWISE SPECIFIED DIMENSIONING ENGLISH (mm)	
FRACTIONAL $\pm 1/64$	
ANGULAR: ± 2	
DECIMAL	
.XXX $\pm .0005$	
.XX $\pm .005$.010
.X $\pm .015$.10
	.3



NAME	DATE
Shawn McNamara	01/23/2023
RELEASED	

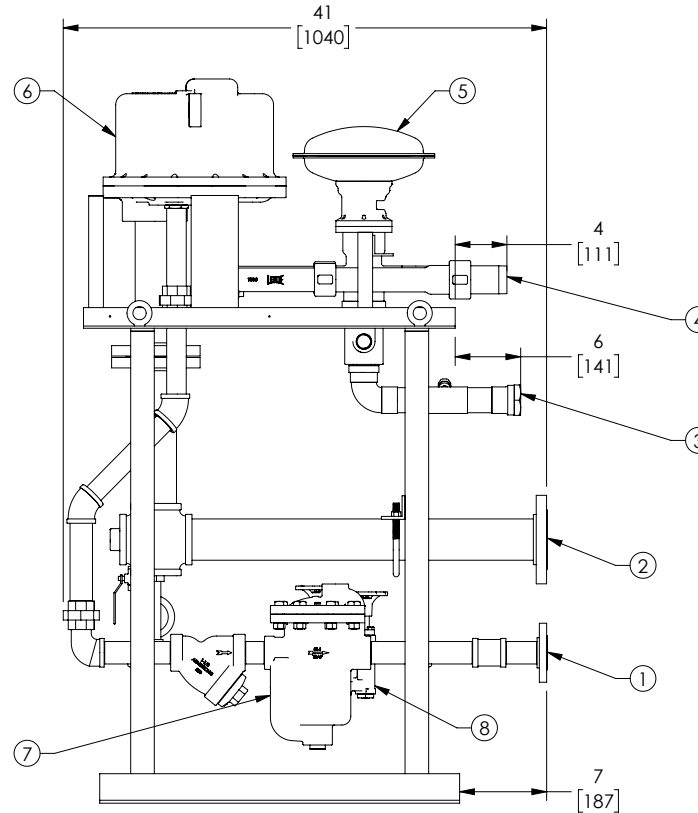
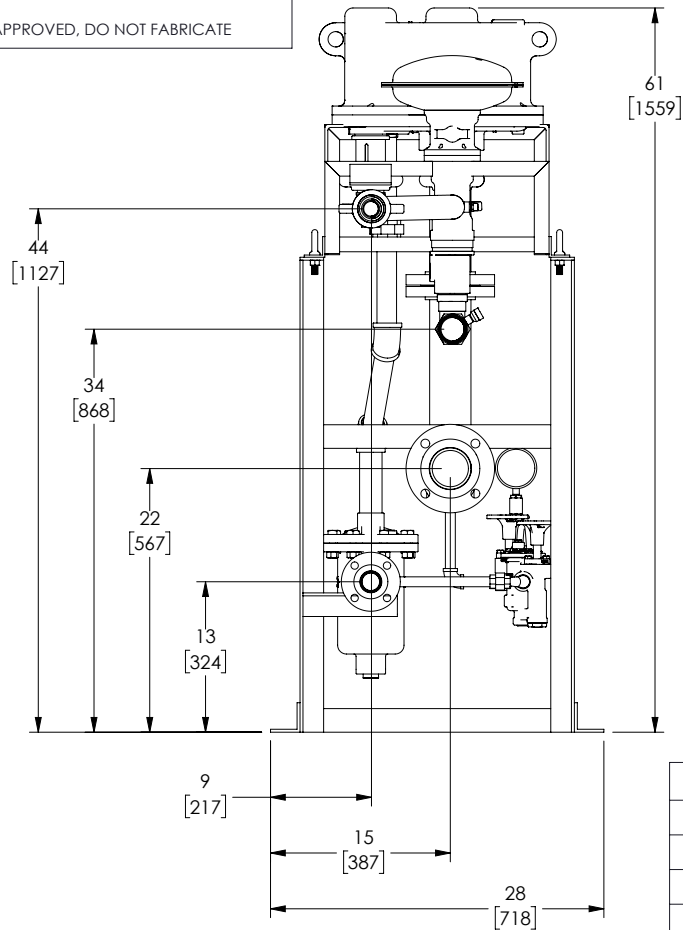
ARMSTRONG INTERNATIONAL
Copyright © 2010 ARMSTRONG INTERNATIONAL, INC.

LH-E0300L00000000000000
30 GPM

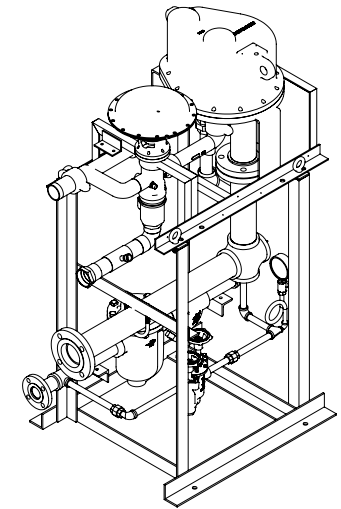
MATERIAL	SHEET 1 OF 1
REV 0	DWG. SALES

APPROVAL

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



Part Number	Description	Call Out
U008958804	BLEND VALVE	5
A68610	EXCHANGER	6
C5318-35	814 STEAM TRAP	7
D500441	STEAM TRAP	8



CONSTANTEMP STEAM WATER HEATER
COMPACT PRE-PIPED FEEDFORWARD DESIGN

PROJECT NAME:			
TAG:			
ITEM	DISCRIPTION	QTY.	CONNECTION
1	CONDENSATE OUTLET	1	1-1/2" 150# FLG
2	STEAM INLET	1	3" 150# FLG
3	MIXED WATER OUTLET	1	2" FNPT
4	COLD WATER INLET	1	2" MNPT
ITEM	MATERIAL		
PIPING (STEAM/CONDENSATE)	STEEL		
PIPING (WATER)	COPPER/BRASS		
EXCHANGER SHELL MATL.	DUCTILE IRON		
EXCHANGER TUBE MATL.	COPPER		

NOTES:

- ALL DIMENSIONS +/- 3.0 [76] UNLESS OTHERWISE SHOWN.
- 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.

DO NOT SCALE DRAWING TOLERANCES UNLESS OTHERWISE SPECIFIED DIMENSIONING ENGLISH (mm)	
FRACTIONAL ± 1/64	
ANGULAR: ± 2	
DECIMAL	
.XXX ± .005	.010
.XX ± .015	.10
.X ± .03	.3



NAME	DATE
Shawn McNamara	01/17/2023
DRAWN	RELEASED

ARMSTRONG INTERNATIONAL
Copyright © 2010 ARMSTRONG INTERNATIONAL, INC.

LH-E0600L00000000000000
60 GPM

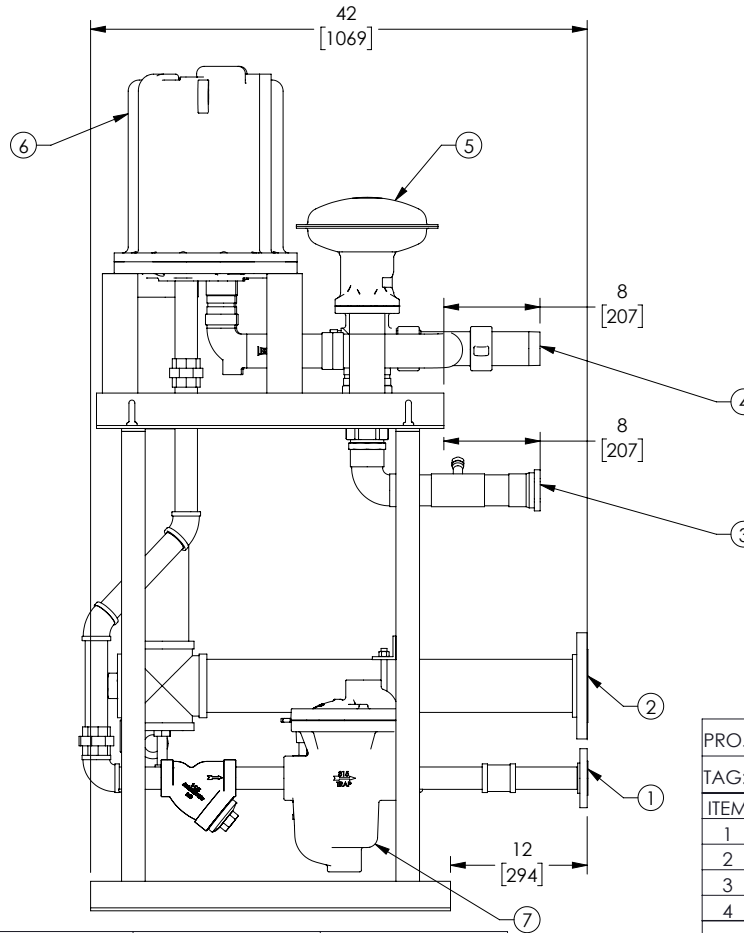
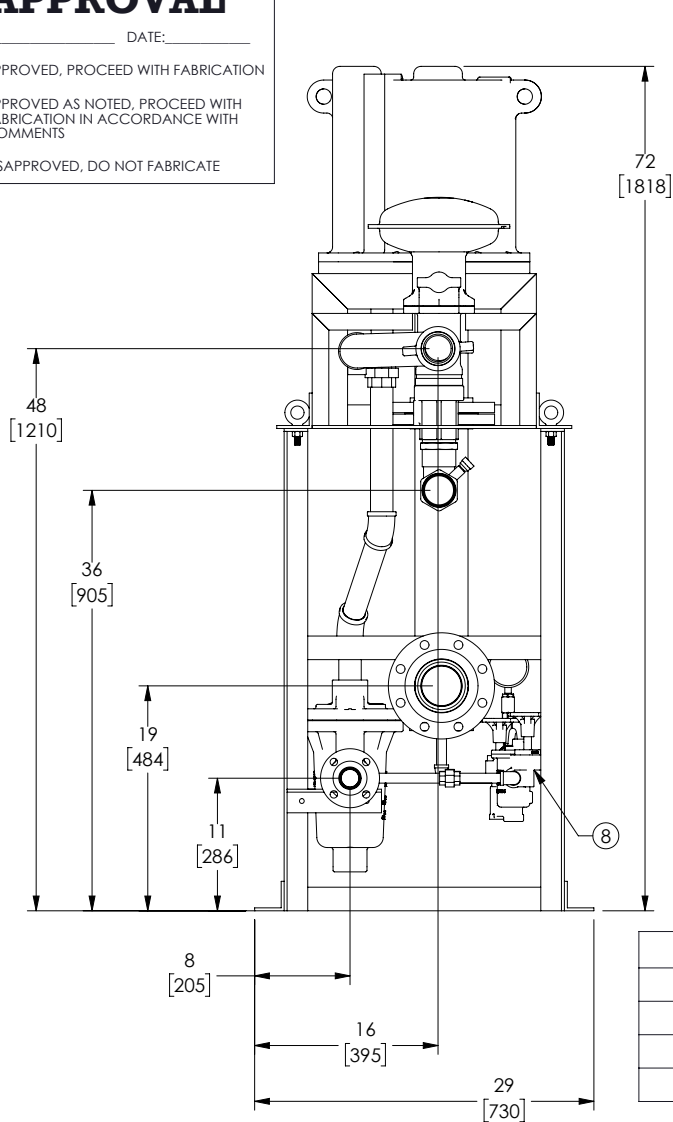
MATERIAL	REV	DWG.	SALES

SHEET 1 OF 1

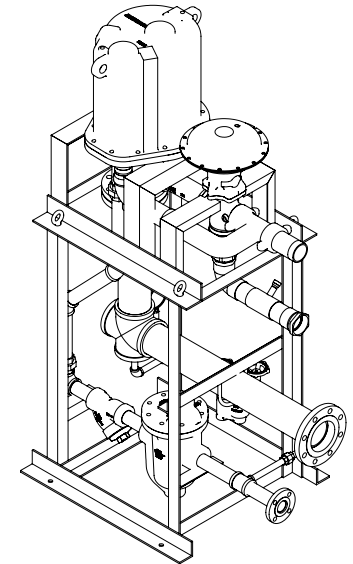
APPROVAL

BY: _____ DATE: _____

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



Part Number	Description	Call Out
U008958805	BLEND VALVE	5
A68611	EXCHANGER	6
D502644	815 STEAM TRAP	7
D500441	STEAM TRAP	8



CONSTANTEMP STEAM WATER HEATER
COMPACT PRE-PIPED FEEDFORWARD DESIGN

PROJECT NAME:

TAG:

ITEM	DISCRIPTION	QTY.	CONNECTION
1	CONDENSATE OUTLET	1	1-1/2" 150# FLG
2	STEAM INLET	1	4" 150# FLG
3	MIXED WATER OUTLET	1	2-1/2" FNPT
4	COLD WATER INLET	1	2-1/2" MNPT

ITEM	MATERIAL
PIPING (STEAM/CONDENSATE)	STEEL
PIPING (WATER)	COPPER/BRASS
EXCHANGER SHELL MATL.	DUCTILE IRON
EXCHANGER TUBE MATL.	COPPER

NOTES:

- ALL DIMENSIONS +/- 3.0 [76] UNLESS OTHERWISE SHOWN.
- 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.

DO NOT SCALE DRAWING TOLERANCES UNLESS OTHERWISE SPECIFIED DIMENSIONING ENGLISH (mm)	
FRACTIONAL $\pm 1/64$	
ANGULAR: ± 2	
DECIMAL	
.XXXX $\pm .0005$	IN. .010
.XXX $\pm .005$	MM .10
.XX $\pm .015$.3
.X	



NAME	DATE
Shawn McNamara	01/12/2023
DRAWN	
RELEASED	

ARMSTRONG INTERNATIONAL
Copyright © 2010 ARMSTRONG INTERNATIONAL, INC.

LH-E-900L00000000000000
90GPM

MATERIAL	SHEET 1 OF 1
REV 0	DWG. SALES

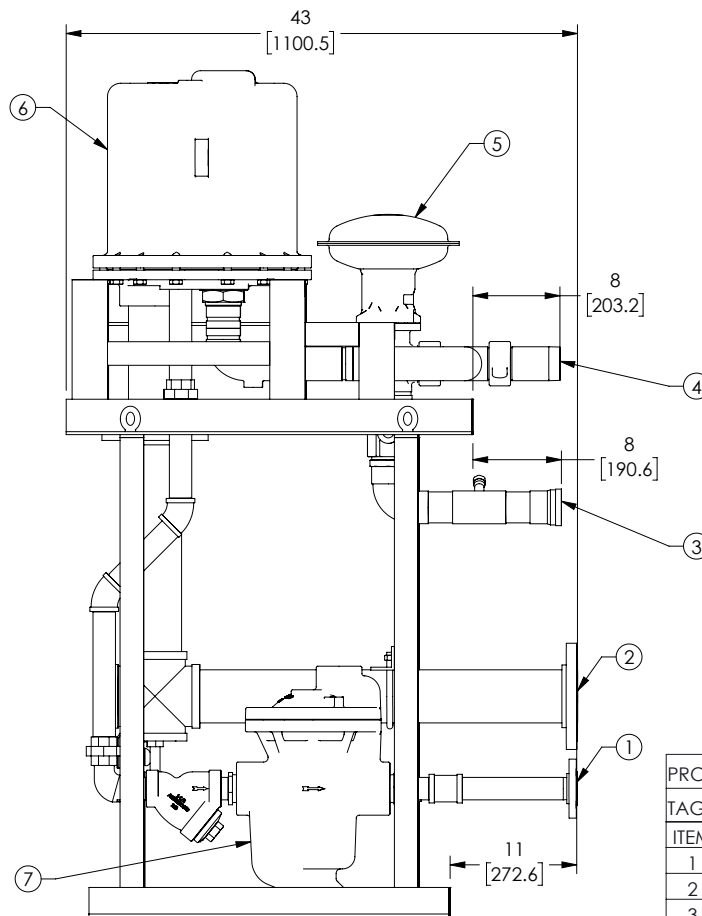
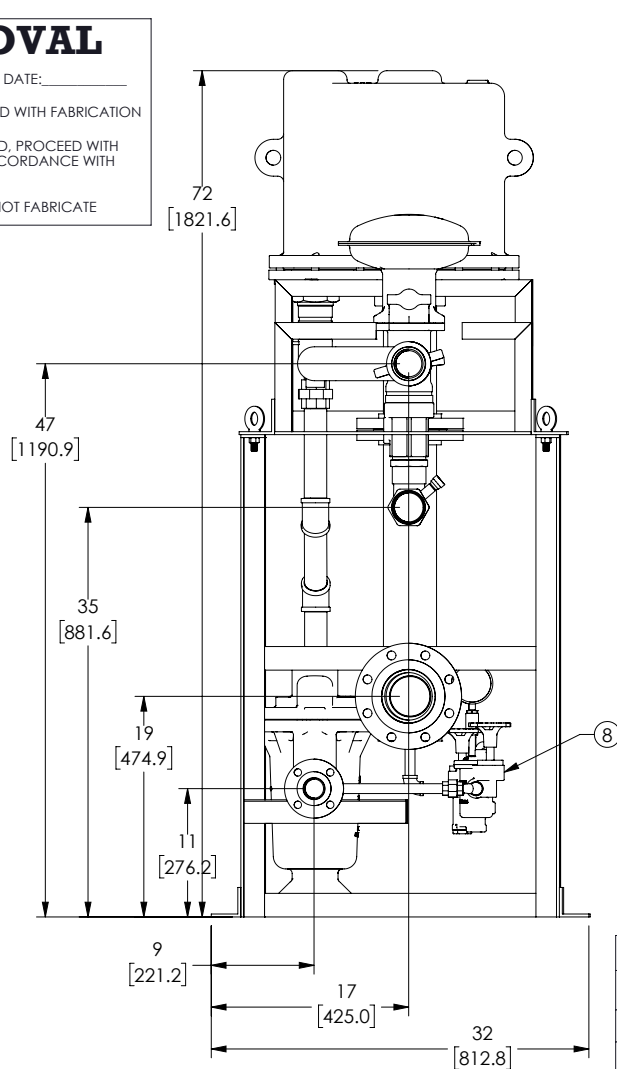
APPROVAL

BY: _____ DATE: _____

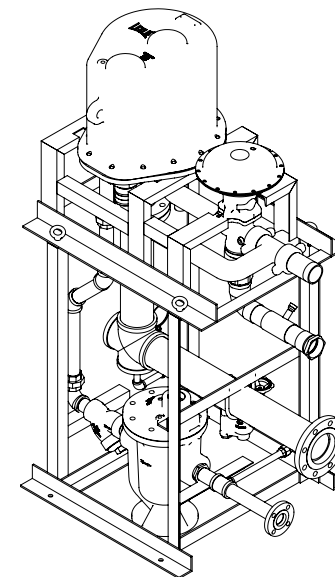
☐ APPROVED, PROCEED WITH FABRICATION

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

☐ DISAPPROVED, DO NOT FABRICATE



Part Number	Description	Call Out
U008958805	BLEND VALVE	5
A68612	EXCHANGER	6
D530938	816 STEAM TRAP	7
D500441	STEAM TRAP	8



CONSTANTEMP STEAM WATER HEATER
COMPACT PRE-PIPED FEEDFORWARD DESIGN

PROJECT NAME:			
TAG:			
ITEM	DISCRIPTION	QTY.	CONNECTION
1	CONDENSATE OUTLET	1	1-1/2" 150# FLG
2	STEAM INLET	1	4" 150# FLG
3	MIXED WATER OUTLET	1	2-1/2" FNPT
4	COLD WATER INLET	1	2-1/2" MNPT
ITEM	MATERIAL		
PIPING (STEAM/CONDENSATE)	STEEL		
PIPING (WATER)	COPPER/BRASS		
EXCHANGER SHELL MATL.	DUCTILE IRON		
EXCHANGER TUBE MATL.	COPPER		

NOTES:

- ALL DIMENSIONS +/- 3.0 [76] UNLESS OTHERWISE SHOWN.
- 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.

DO NOT SCALE DRAWING	
TOLERANCES UNLESS OTHERWISE SPECIFIED	
DIMENSIONING ENGLISH (mm)	
FRACTIONAL	± 1/64
ANGULAR:	± 2
DECIMAL	.XXXX ± .0005
	.XXX ± .005
	.XX ± .015
	.X ± .3

NAME	DATE
Shawn McNamara	12/24/2022
DRAWN	
RELEASED	

ARMSTRONG INTERNATIONAL
Copyright © 2010 ARMSTRONG INTERNATIONAL, INC.

LH-E1200L0000000000000000
120 GPM

MATERIAL	SHEET 1 OF 1
REV 0	DWG. SALES