

## FEATURES & BENEFITS

### QUALITY CONTROL

Fully assembled and tested for quick placement and hook-up.

### STANDARDIZED PLATFORM

Offering a standardized line of water tempering solutions providing shorter lead times, advanced compliance, cost efficiencies, and customizable configuration options.

### BLENDING SYSTEM

Safe, fully engineered thermostatic provides 78 gallons per minute with anti-scald protection and full-flow cold water bypass to provide tempered water in adverse situations.

### TANK SYSTEM OPTIONS

Tanks available: 119 Gal non-ASME (450 L), 120 Gal (454 L) ASME, or 200 Gal (757 L) ASME that will store enough hot water to provide a single 15 minute shower and eye/face wash use. Standard is a 318 Gal (1203 L) ASME or an available 400 Gal (1514 L) ASME that stores enough hot water to provide two 15 minute shower and eye/face wash uses before tank recovery is required.

### EXPANDABLE/FLEXIBLE CAPABILITIES

System can be designed to a number of variations including the hot water supply, the electrical type, the blending capabilities, and pump options including VFD controlled pump.

### ELECTRICAL SYSTEM OPTIONS

Haws provides systems at various voltage options, including 480V 3ph, 600V 3ph, 208V 1ph, 208V 3ph, 240V 1ph, and 240V 3ph. Electrical area rating option includes Type 4 Ordinary Location.



## SPECIFICATIONS

Model 8780 fully assembled skid-mounted tempering system shall include an aluminum 5' x 5' (1.5 x 1.5 m) frame with a composite equipment platform, with HYTEX Black chemical and UV resistant polyester based powder coating. This multiple shower and eyewash feeder provides an operating temperature range of 35° to 120° F (45.5° to 48.9° C), and is designed to operate with a number of tempering and electrical options. The tempered water blending system includes a 318 gallon ASME hot water tank, galvanized piping, and will incorporate fail-safe features like anti-scald protection and full flow cold water bypass. The electrical system is supplied with a TYPE4 enclosure, 480V three phase inlet, and the can be easily adapted to other voltages upon request. 1-1/2" tepid and cold water inlets.

## APPLICATIONS

Perfect for indoor facilities that may encounter dangerous chemical hazards and need a complete tempering system, and/or need a feeder to other remote booth substations or other drench systems and/or eyewash stations. CSA Certified.

Optional equipment to accommodate virtually any specific need includes:

- Stainless steel valves and/or piping
- Temperature control packages including 4 or 10 kW immersion heaters
- Alarm package
- Recirculation pump with VFD, or booster / recirculation pump with VFD

For more information, visit [www.hawscos.com](http://www.hawscos.com) or call (888) 640-4297.

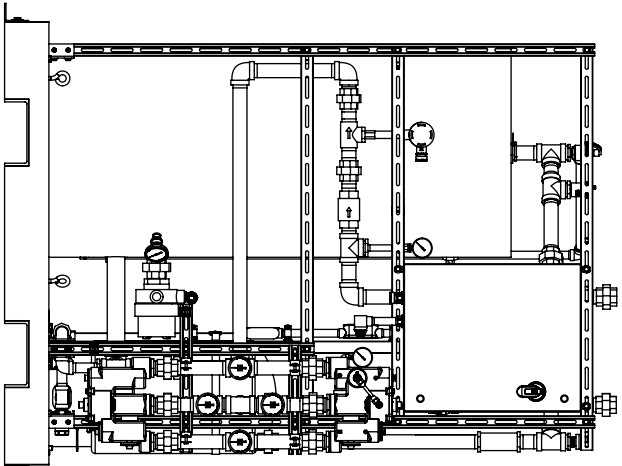


NOTES:

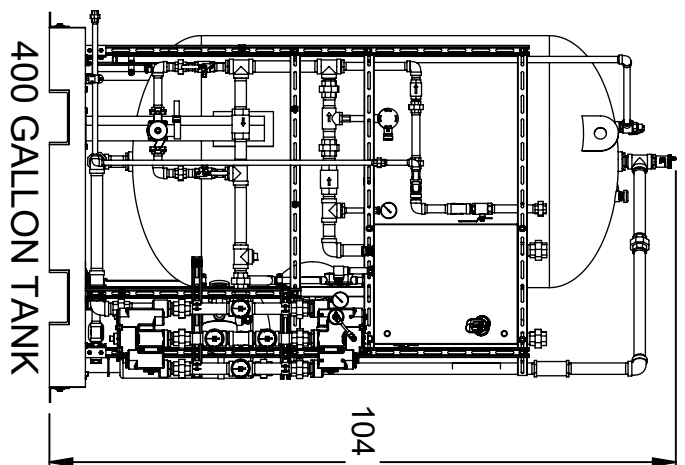
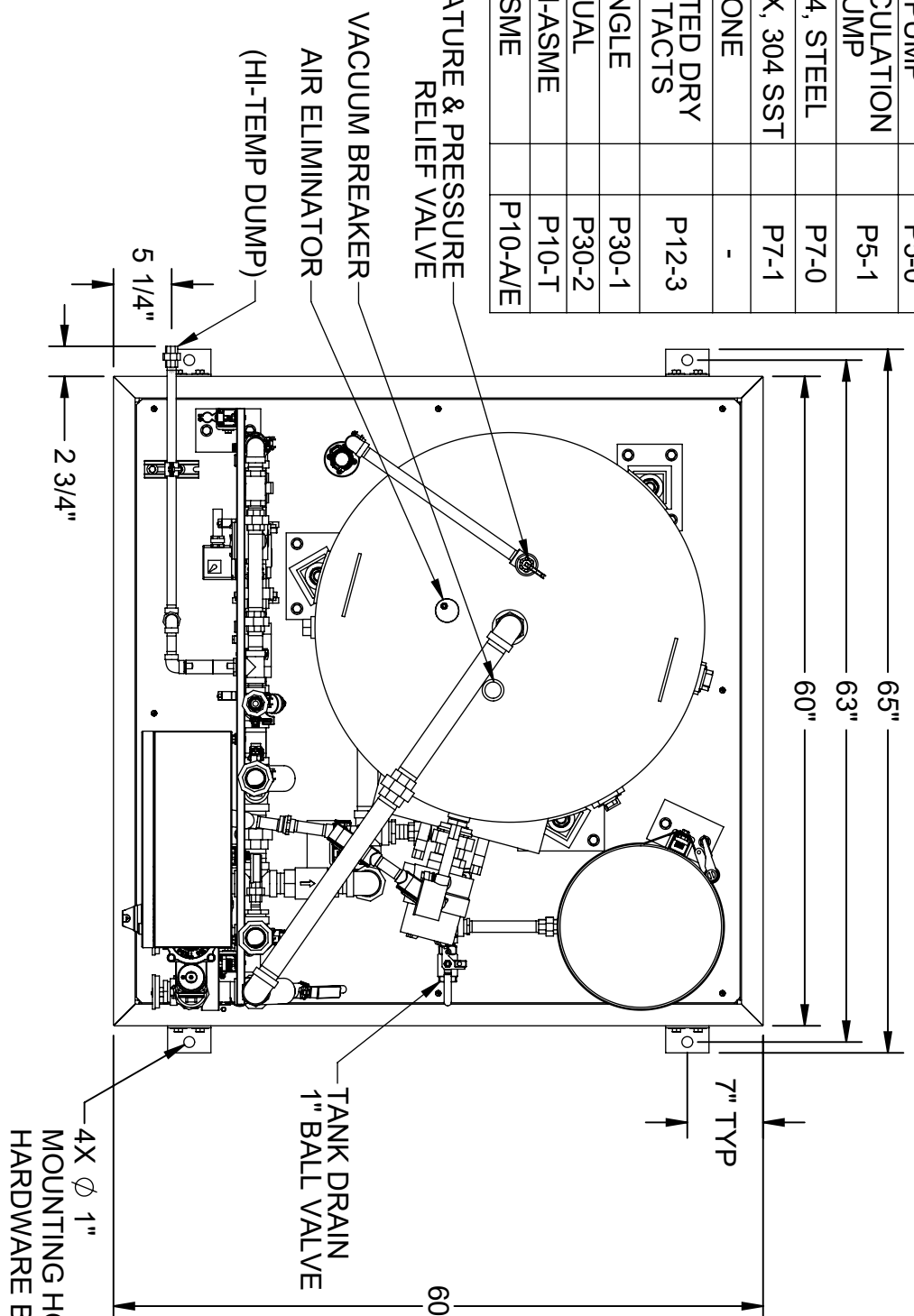
- DIMENSIONS IN INCHES.
- ALL TOLERANCES:  $\pm 1/2"$ .
- ESTIMATED WEIGHT:
- DRY: 1200 LB
- WET: 3900 LB
- AREA CLASSIFICATION: ORDINARY
- AMBIENT TEMPERATURE:  $32^{\circ}\text{F}$ - $104^{\circ}\text{F}$
- NOT ALL FEATURES ARE STANDARD

# MODELS WITH RECIRCULATION PUMP OR NO PUMP

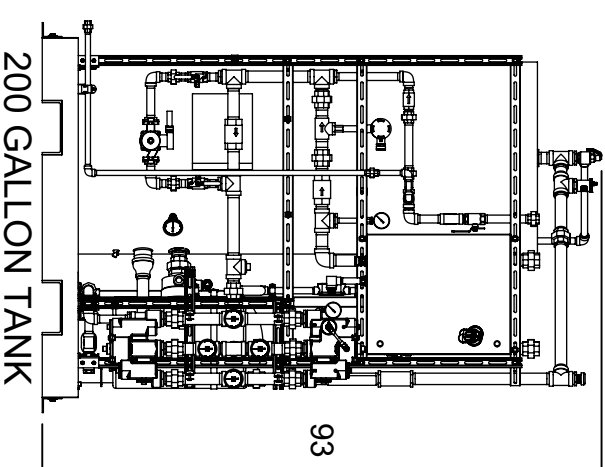
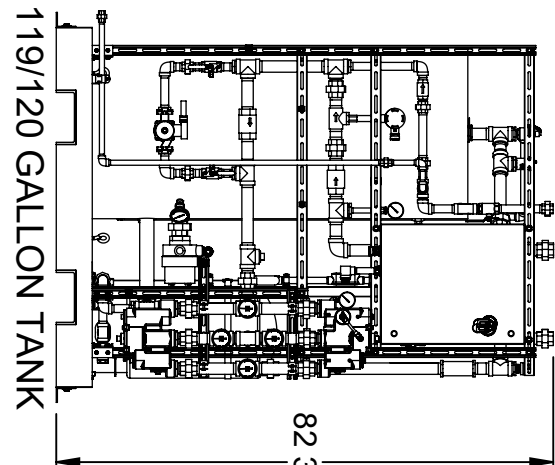
OPTIONS		DWG REF.
PUMP CONFIGURATION	NO PUMP RECIRCULATION PUMP	P5-0 P5-1
JUNCTION BOX TYPE RATING	TYPE 4, STEEL TYPE 4X, 304 SST	P7-0 P7-1
ALARM (IN USE)	NONE ISOLATED DRY CONTACTS	- P12-3
MIXING VALVE QTY.	SINGLE DUAL	P30-1 P30-2
EXPANSION TANK	NON-ASME ASME	P10-T P10-A/E



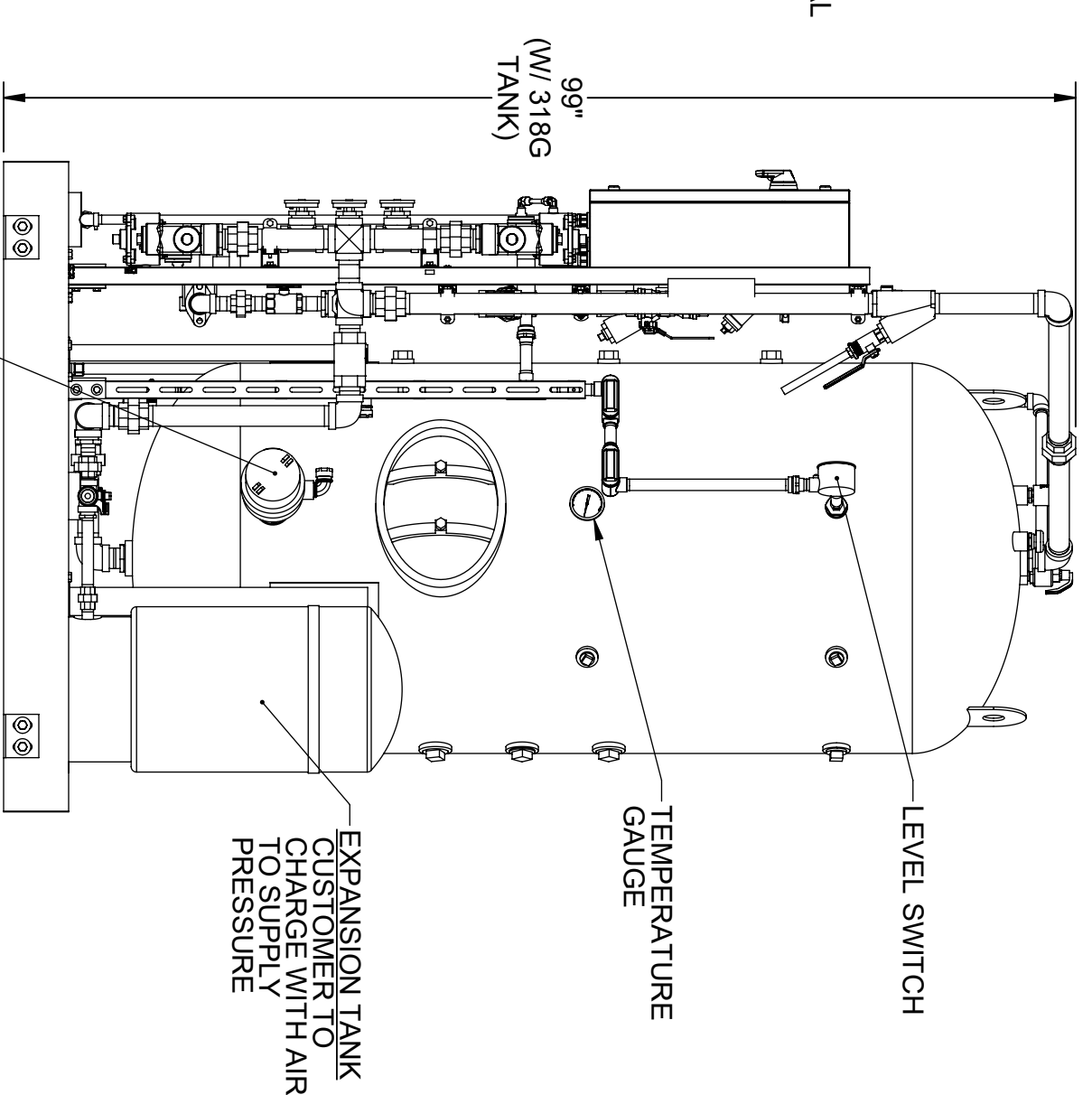
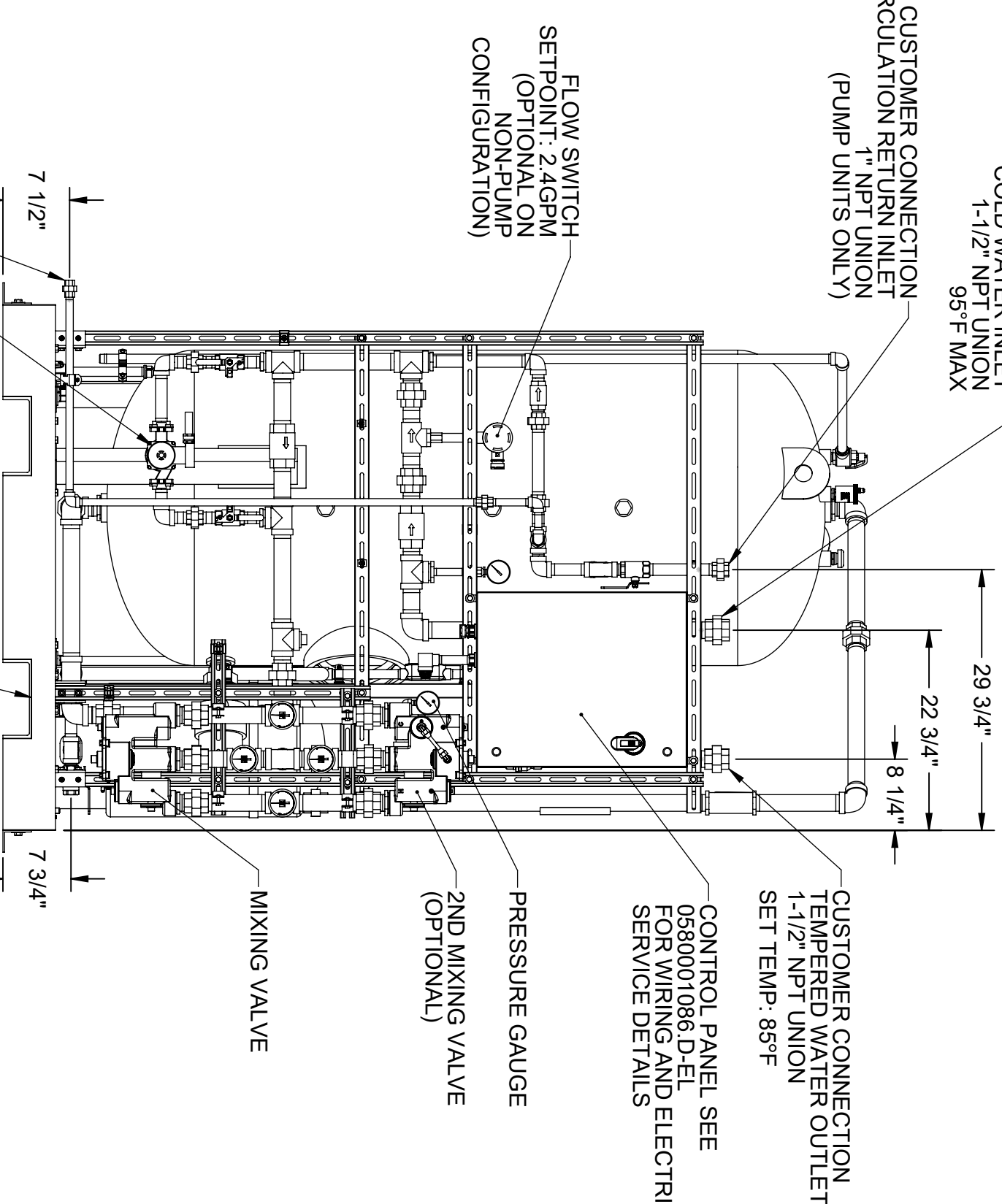
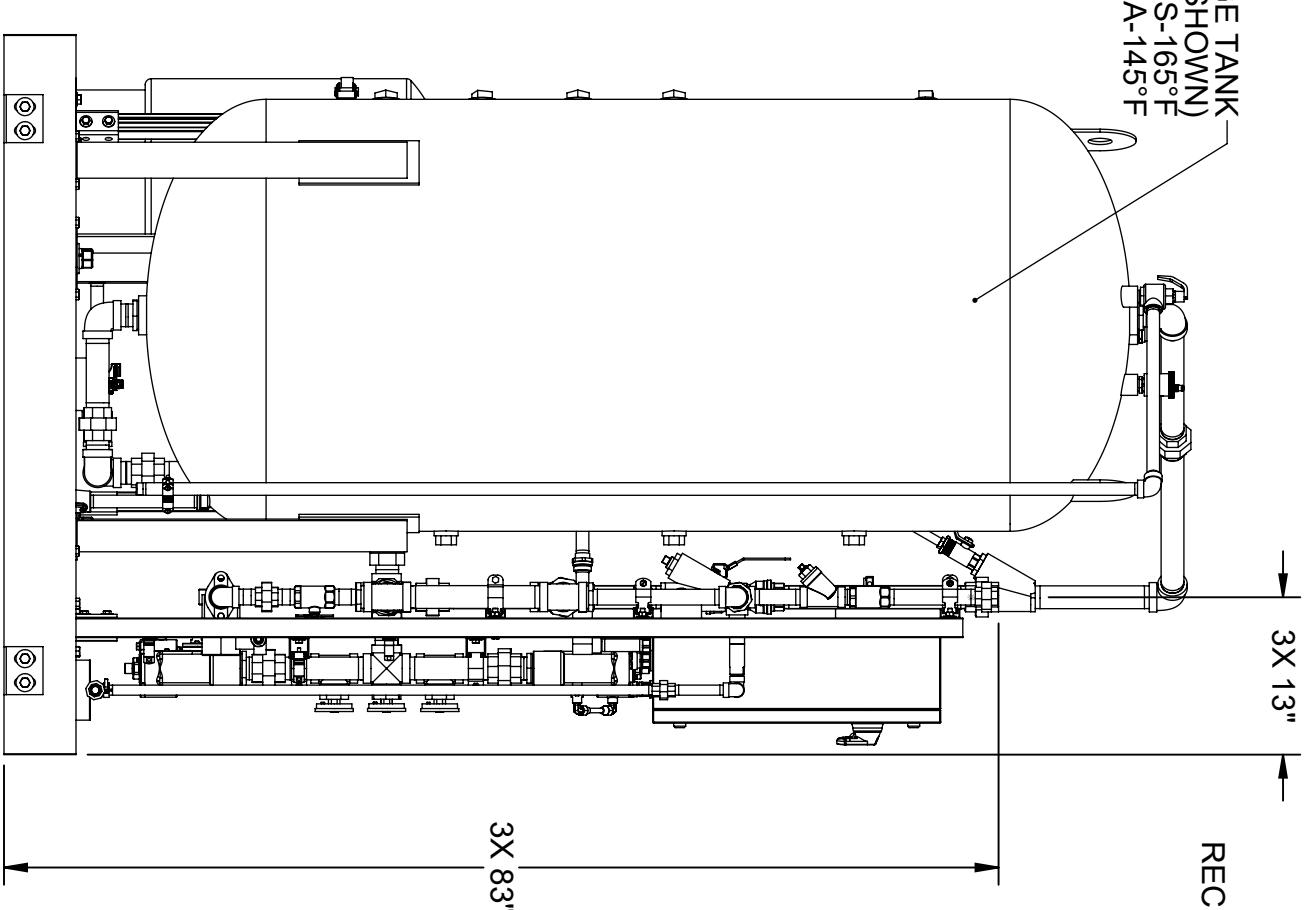
119/120 GALLON TANK, NO PUMP



TANK SIZE (TANK TEMPERATURES ARE SET AT 165°F FOR USA AND 145°F FOR CANADA)			
TANK SIZE	TANK TEMP	SHOWER CAPACITY (15 MIN.)	MINIMUM INLET TEMP. / OPTION SELECTED
119G	145°F	1	62°F
119G	165°F	1	54°F
120G	145°F	1	62°F
120G	165°F	1	54°F
200G	145°F	1	35°F
200G	165°F	1	32°F
318G	145°F	2	50°F
318G	165°F	2	39°F
400G	145°F	2	35°F
400G	165°F	2	32°F



200 GALLON TANK



THE ATTACHED DESIGNS ARE CONSIDERED TRADE SECRETS AND POTENTIALLY PATENTABLE. IN ACCORDANCE WITH CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT, THESE DESIGNS IN ACTUAL OR CONCEPTUAL FORMS CANNOT BE DISCLOSED, REPRODUCED OR USED WITHOUT HAWS EXPRESS WRITTEN CONSENT.

CUSTOMER NOTING #:

1455 ALPEPE LANE  
SPARKS, NEVADA 89431  
USA

INDOOR EMERGENCY WATER TEMPERING SKID

THIRD ANGLE PROJECTION

NOTICE OF PROPRIETARY INFORMATION

INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF HAWES CORPORATION. IT IS TO BE KEPT CONFIDENTIAL AND NOT DISCLOSED TO ANYONE WITHOUT THE WRITTEN PERMISSION OF HAWES CORPORATION.

SCALE SIZE: 1:10

C

0580001086.D-GA

REV. 3

APPROVED BY: IR

CHECKED DATE: 07/06/22

DRAWN DATE: 06/16/21

DRAWN BY: DP

APPROVAL DATE: 07/06/22

PER ECO

3



REVISIONS			
REV	DESCRIPTION	ECN	DATE
3	PER ECO	5817	6/8/22
		IR	BY

# MODELS WITH VFD RECIRC/BOOSTER PUMP

- NOTES:
1. DIMENSIONS IN INCHES

2. ALL TOLERANCES: ±1/2"

3. ESTIMATED WEIGHT:

4. DRY: 1200 LB  
WET: 3900 LB

5. AREA CLASSIFICATION: ORDINARY

6. AMBIENT TEMPERATURE: 32°F-104°F

7. NOT ALL FEATURES ARE STANDARD

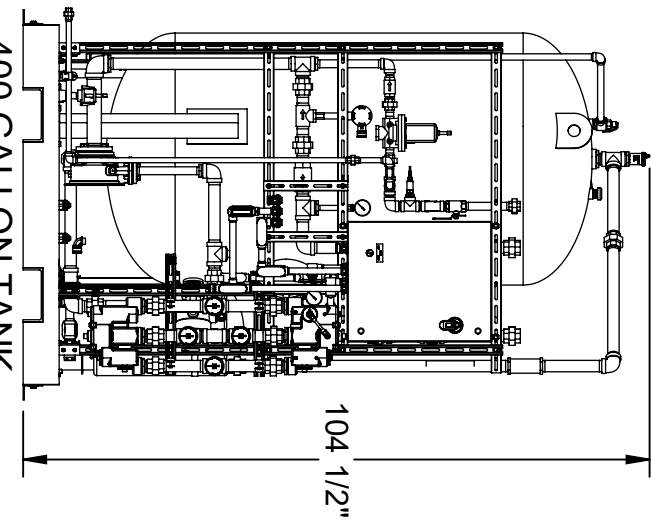
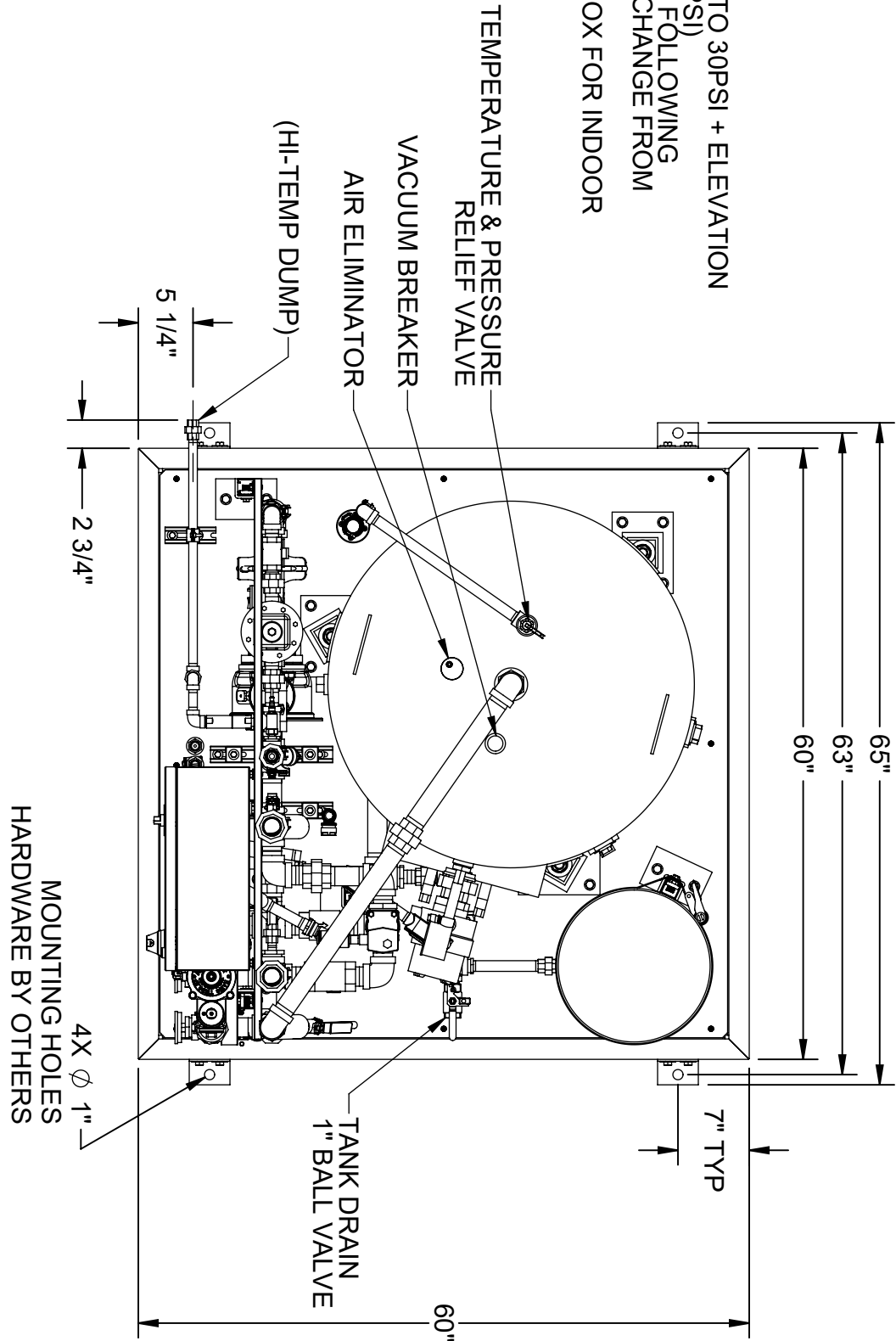
8. RECOMMENDED RECIRCULATION FLOWRATE: 10GPM

9. PRESSURE TRANSMITTER SETPOINT IS TYPICALLY SET TO 30PSI + ELEVATION

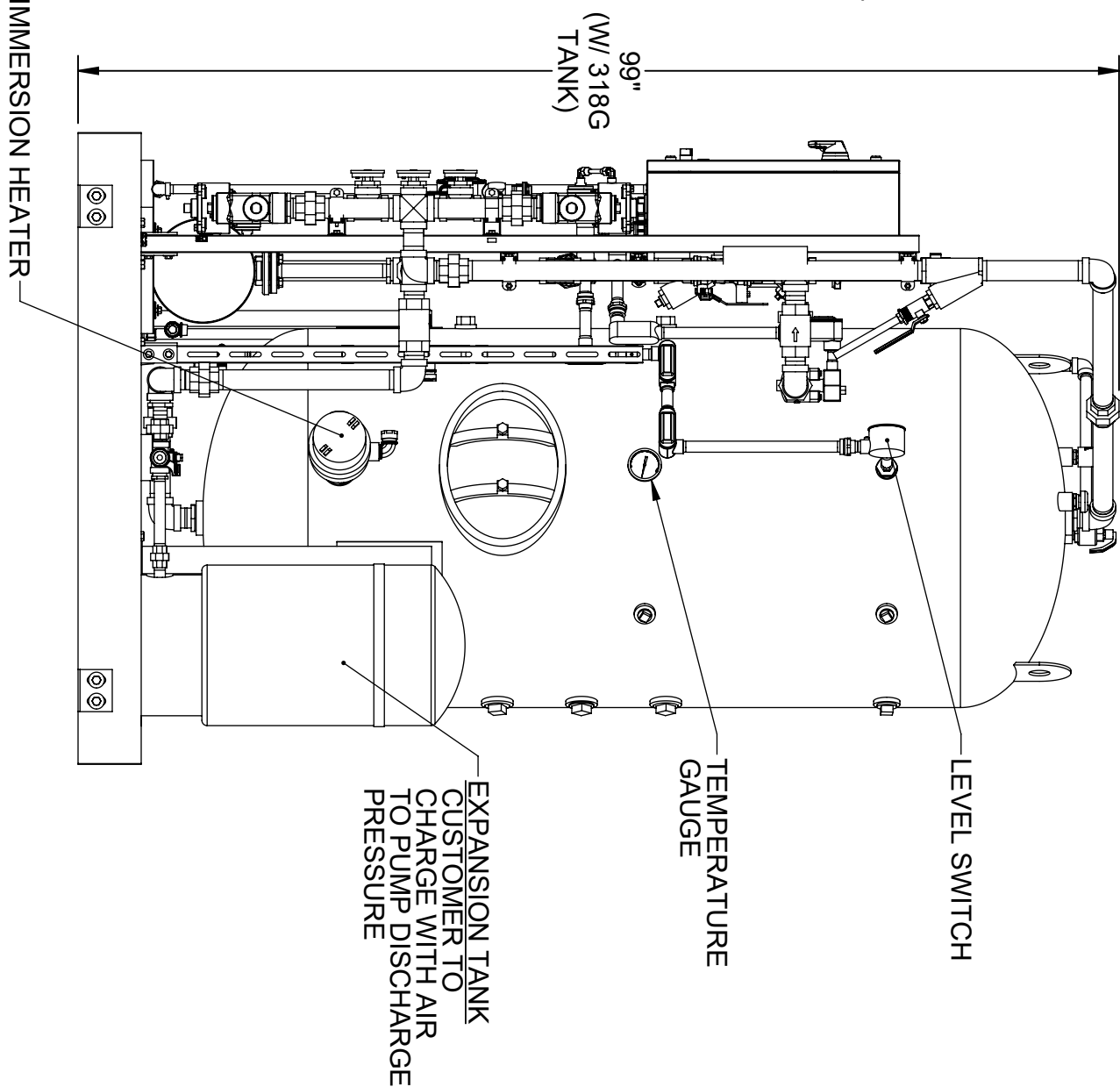
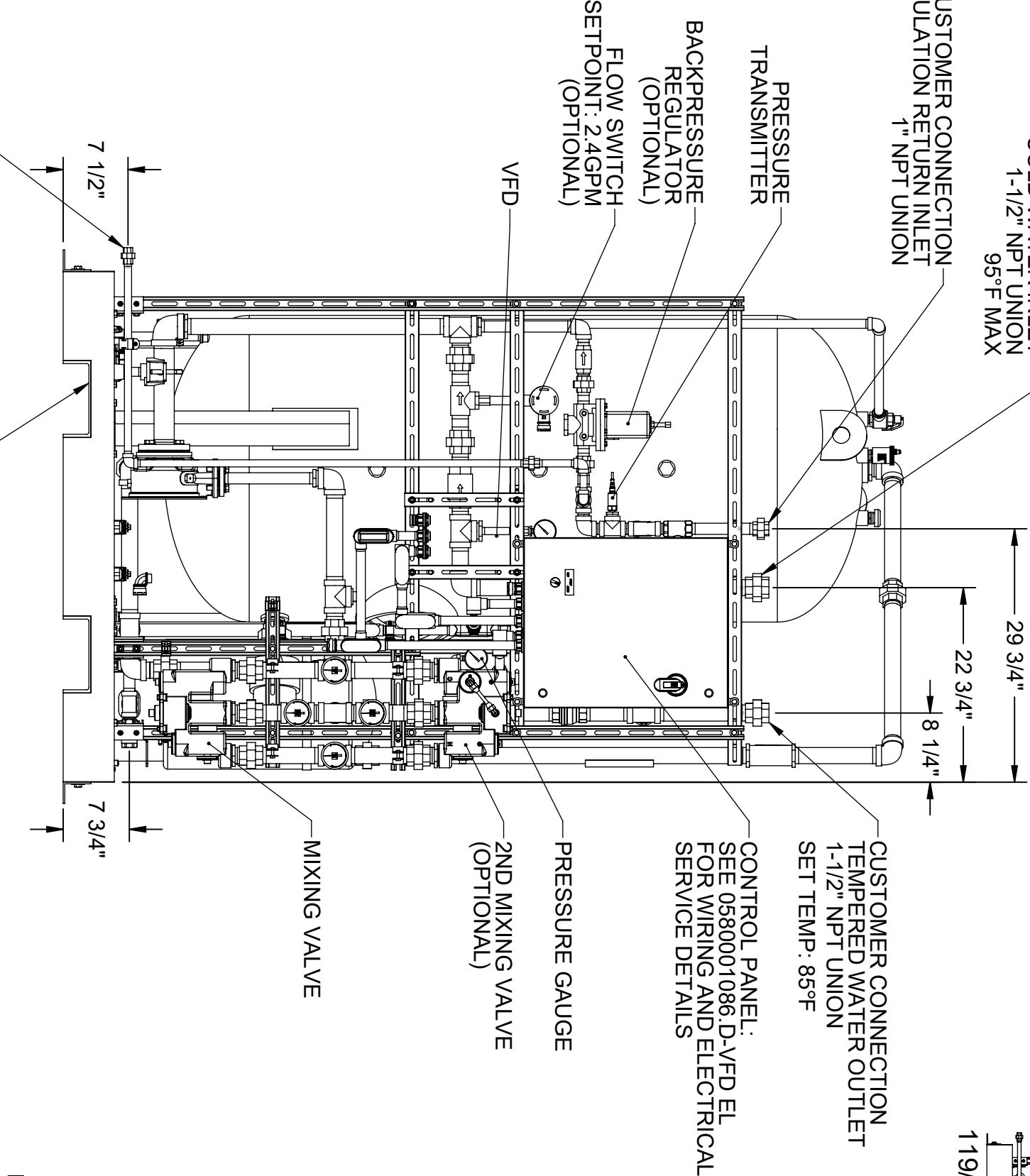
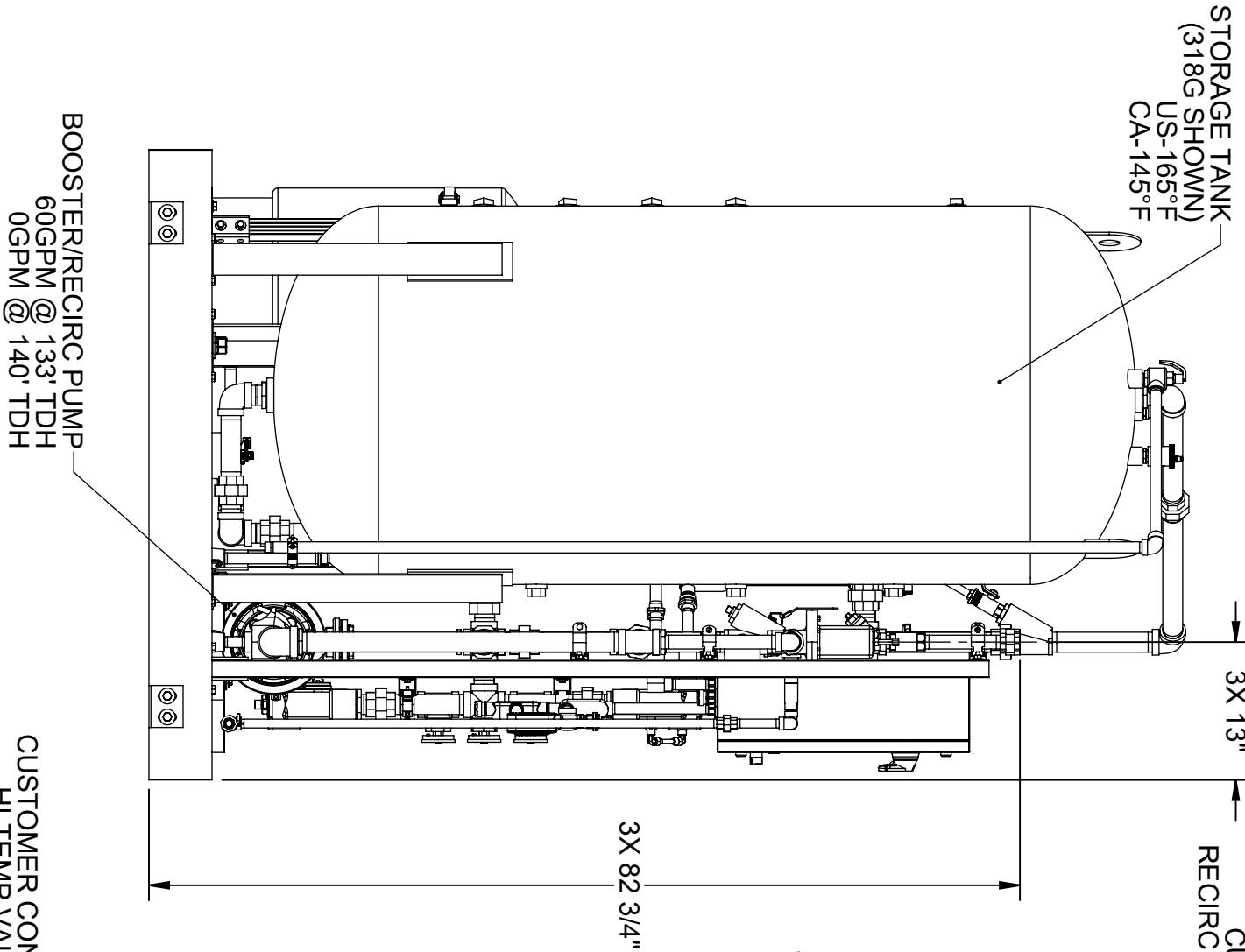
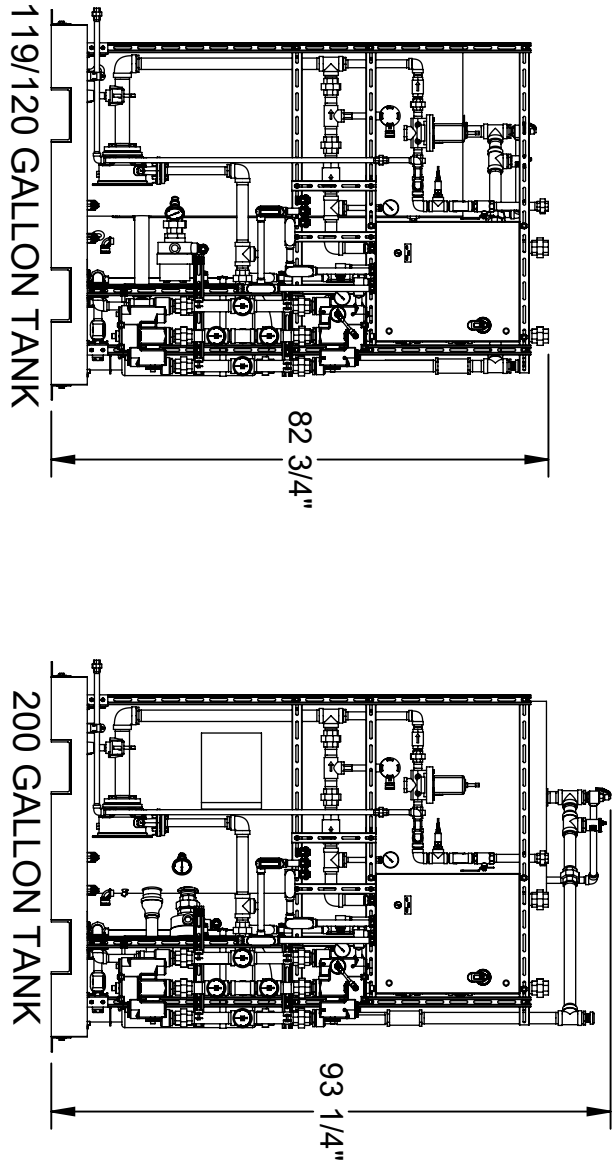
10. A BACK PRESSURE REGULATOR IS REQUIRED FOR THE FOLLOWING SKID TO HIGHEST SHOWER LOCATION

11. RATINGS: CONFIGURABLE WITH TYPE 4/4X JUNCTION BOX FOR INDOOR



OPTIONS		DWG REF.
PUMP CONFIGURATION	BOOSTER/RECIRC W/ VFD	P5-3
JUNCTION BOX TYPE RATING	TYPE 4, STEEL	P7-0
	TYPE 4X, 304 SST	P7-1
	NONE	-
ALARM (IN USE)	ISOLATED DRY CONTACTS	P12-3
MIXING VALVE QTY.	SINGLE	P30-1
	DUAL	P30-2



TANK SIZE			
(TANK TEMPERATURES ARE SET AT 165°F FOR USA AND 145°F FOR CANADA)			
TANK SIZE	TANK TEMP.	SHOWER CAPACITY (15 MIN.)	OPTION MINIMUM INLET TEMP. SELECTED
119G	145°F	1	62°F
	165°F	1	54°F
120G	145°F	1	62°F
	165°F	1	54°F
200G	145°F	1	35°F
	165°F	1	32°F
318G	145°F	2	50°F
	165°F	2	39°F
400G	145°F	2	35°F
	165°F	2	32°F



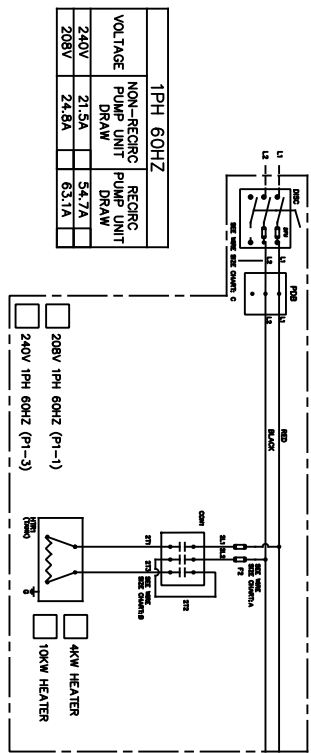
THE ATTACHED DESIGNS ARE CONSIDERED TRADE SECRETS AND POTENTIALLY PATENTABLE. IN ACCORDANCE WITH CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT, THESE DESIGNS IN ACTUAL OR CONCEPTUAL FORMS CANNOT BE DISCLOSED, REPRODUCED OR USED WITHOUT HAWS EXPRESS WRITTEN CONSENT.

CUSTOMER INFO/TAG #:		 1455 ALLEPE LANE SPARKS, NEVADA 89431 USA	
JOB NUMBER:	DP	INDOOR EMERGENCY WATER TEMPERING SKID	
DRAWN BY:	06/16/21	THIRD ANGLE PROJECTION	
DRAWN DATE:	JSLP	NOTICE OF PROPRIETARY INFORMATION INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF HAWWS CORPORATION. IT IS TO BE USED FOR THE PROJECT AND NOT FOR ANY OTHER PURPOSE. IT IS TO BE KEPT IN CONFIDENTIALITY AND NOT DISCLOSED TO ANYONE WITHOUT THE WRITTEN PERMISSION OF HAWWS CORPORATION.	
CHECKED BY:	07/06/22		GA SH 1 OF 1
APPROVED BY:	IR	SCALE SIZE	PART NO.
APPROVAL DATE:	07/06/22	1:10	C 0580001086.D-GA
			REV. 3

REVISIONS			
REV	DESCRIPTION	DATE	BY
1	REVISED	05/05/20	MS
2	REVISED	05/05/20	MS
3	REVISED	05/05/20	MS

3PH 60HZ			
VOLTAGE	NON-RECIRC PUMP UNIT DRAW	RECIRC PUMP UNIT DRAW	
600V	5A	12.6A	
480V	6.2A	15.8A	
240V	12.4A	31.6A	
208V	14.3A	36.4A	

GROUND TO BE  
MAINTAINED  
AT ALL LOCAL CODES  
AND STANDARDS

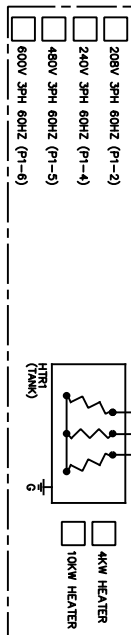


OPTIONAL FEATURE THAT CAN BE  
CONFIGURED WHEN PURCHASED

1PH 60HZ			
VOLTAGE	NON-RECIRC PUMP UNIT DRAW	RECIRC PUMP UNIT DRAW	
240V	21.3A	54.7A	
208V	24.8A	63.1A	

COMPONENT DESIGNATION

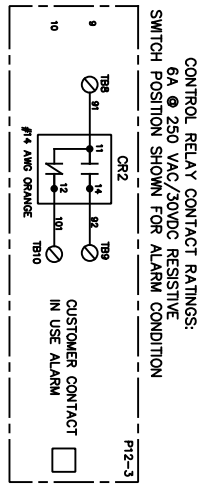
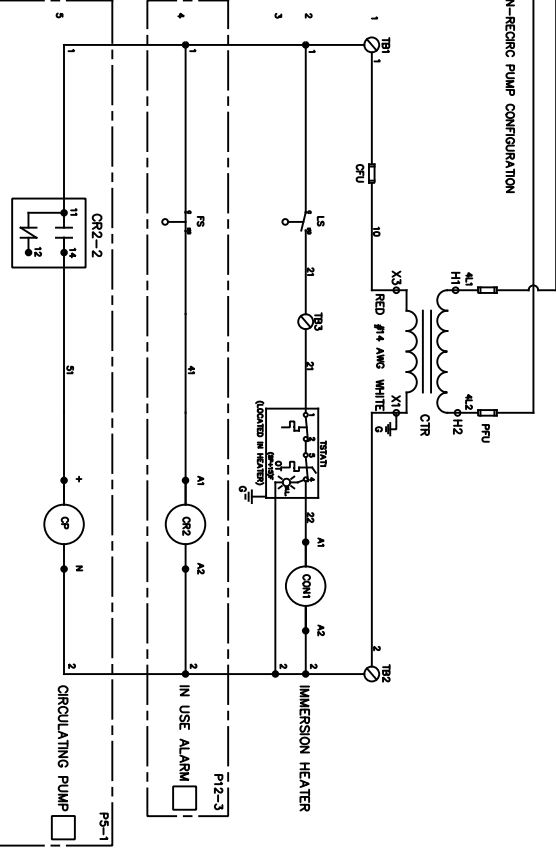
- CR1 - CONTROL POWER FUSE
- CR2 - CIRCULATING PUMP FUSE
- CTR - CONTROL RELAY FOR ALARM NOTIFICATION
- DISC - DISCONNECT SWITCH
- F1 - PUMP FUSE
- F2 - TANK HEATER FUSE
- HTRI - TANK HEATER
- LS - LEVEL SWITCH
- PDB - POWER DISTRIBUTION BLOCK
- PMP - PUMP
- TS1A1 - TANK HEATER THERMOSTAT



P5-0 NON-RECIRC PUMP CONFIGS. FUSE CHART			
DFU	F2	PFU	CFU
208V 1PH 30A	25A	1.25A	1A
240V 1PH 30A	25A	1.25A	1A
208V 3PH 30A	15A	1.25A	1A
240V 3PH 30A	12A	1A	1A
480V 3PH 30A	6A	.5A	1A
600V 3PH 30A	5A	.5A	1A
FUSE TYPE	JKS	KLKR	KLDR

P5-1 RECIRC PUMP CONFIGS. FUSE CHART			
DFU	F2	PFU	CFU
208V 1PH 100A	60A	6A	5.6A
240V 1PH 100A	60A	6A	5.6A
208V 3PH 60A	35A	6A	5.6A
240V 3PH 60A	30A	5.6A	5.6A
480V 3PH 30A	15A	2.8A	5.6A
600V 3PH 30A	12A	2A	5.6A
FUSE TYPE	JKS	KLDR	KLDR

WIRE SIZE CHART			
A	B	C	
4kW #8	10kW #4	4kW #6	4kW #10
208V 1PH #8	240V 1PH #8	208V 3PH #8	240V 3PH #8
208V 3PH #10	240V 3PH #10	480V 3PH #10	600V 3PH #10
208V 3PH #12	240V 3PH #12	480V 3PH #12	600V 3PH #12



CONDUCTOR TERMINAL RATING			
DISCONNECT	CONDUCTOR SIZE	TORQUE VALUE (AWG)	DRY CONTACTS TORQUE VALUE (IN-LBS)
100A	14-2/0	133-184	14-20
60A	14-4	30-35	PUSH-IN
30A	18-8	13-18	

- NOTES:
- 1. AREA CLASSIFICATION: ORDINARY
- 2. AVAILABLE AMBIENT TEMPERATURE RANGE: 32°F - 104°F
- 3. RATINGS: CONFIGURABLE WITH TYPE 4/4X JUNCTION BOX FOR INDOOR LOCATION

THE ATTACHED DESIGNS ARE CONSIDERED TRADE SECRETS  
AND POTENTIALLY PATENTABLE. IN ACCORDANCE WITH  
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HAWES EXPRESS WRITTEN CONSENT.

APPROVALS	DATE	1406 WESTPLANE SPRINGS, NEVADA 89431
DRAWN BY	08/18/20	
CHECKED BY	07/06/22	
APPROVED BY	07/06/22	
DESIGN NUMBER	8780 - INDOOR EMERGENCY WATER TEMPERING SKID	
CONTRACTOR WORK AREA		
NOTES		
1. HAWES CORPORATION AND ITS AGENTS AND THE DESIGNER SHALL BE DISCLOSED IN WRITING TO ANYONE WITHOUT HAWES EXPRESS WRITTEN CONSENT.		
SCALE	1" = 1'	
SIZE	1" = 1'	
PART NUMBER	0880001088 D-EL	

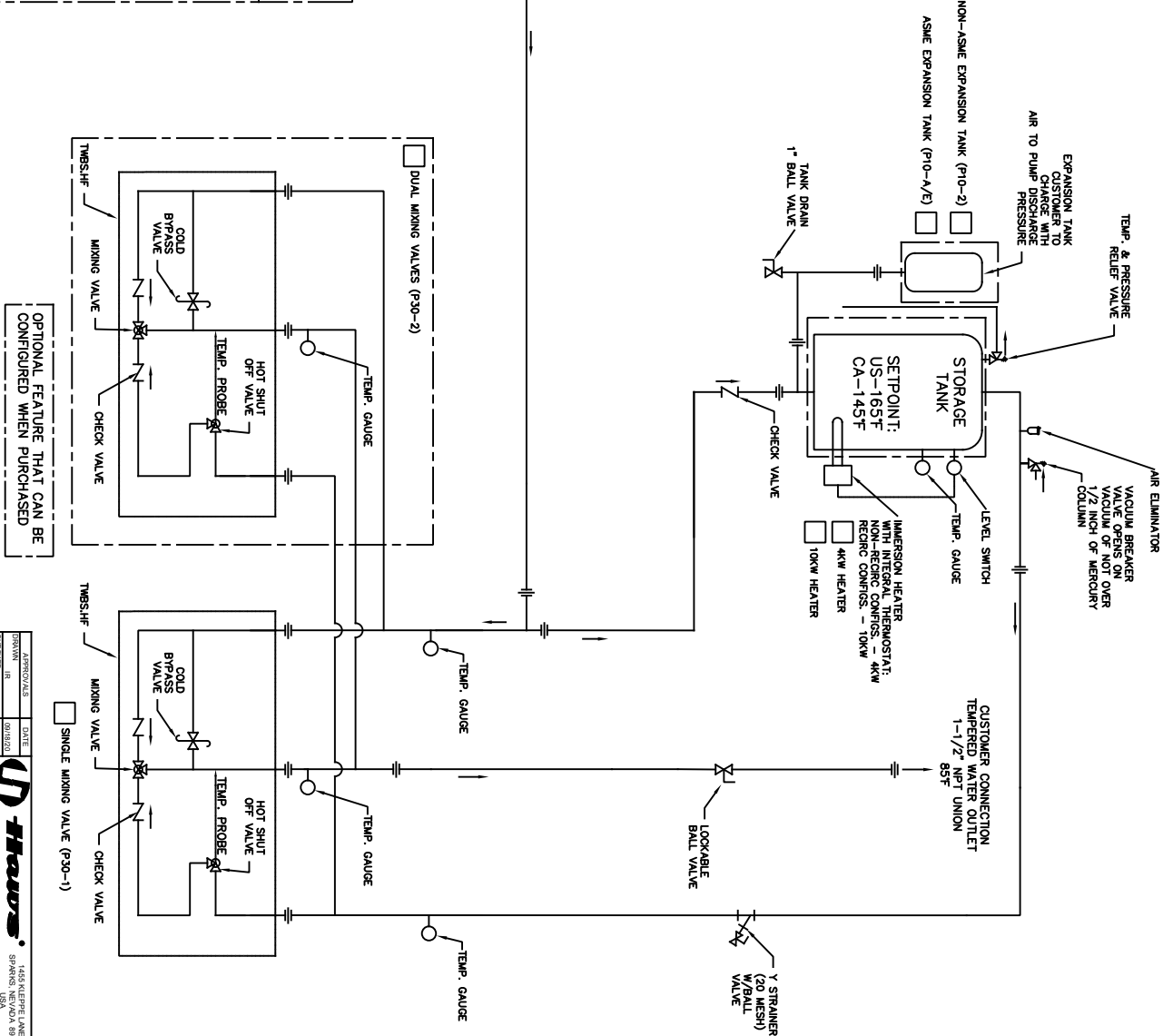
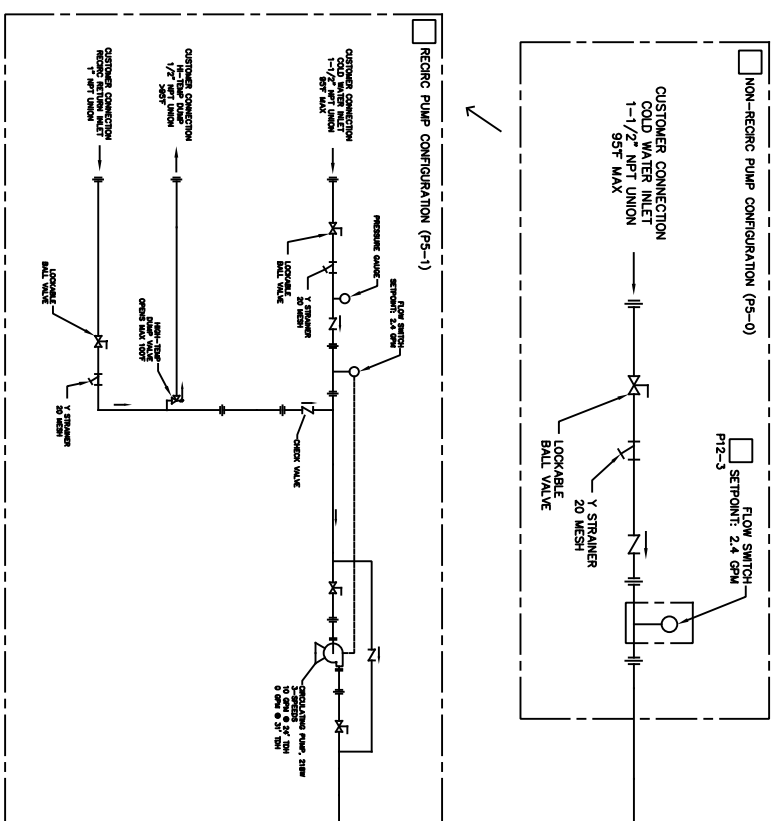


REVISIONS			
REV	DESCRIPTION	ECN	DATE BY
2	PER ECO	0024	01/12/21 JR
3	PER ECO	0017	00/12/22 JR

1. AREA CLASSIFICATION: ORDINARY
2. AVAILABLE AMBIENT TEMPERATURE RANGE: 32°F - 104°F
3. SEE TABLE 1 FOR PRESSURE DROP ACROSS SKID, SHOWERS AND EYEWASHES REQUIRE 30PSI MINIMUM AT THEIR HIGHEST FLOW RATE.
4. RATINGS: CONFIGURABLE WITH TYPE 4/4X JUNCTION BOX FOR INDOOR LOCATION

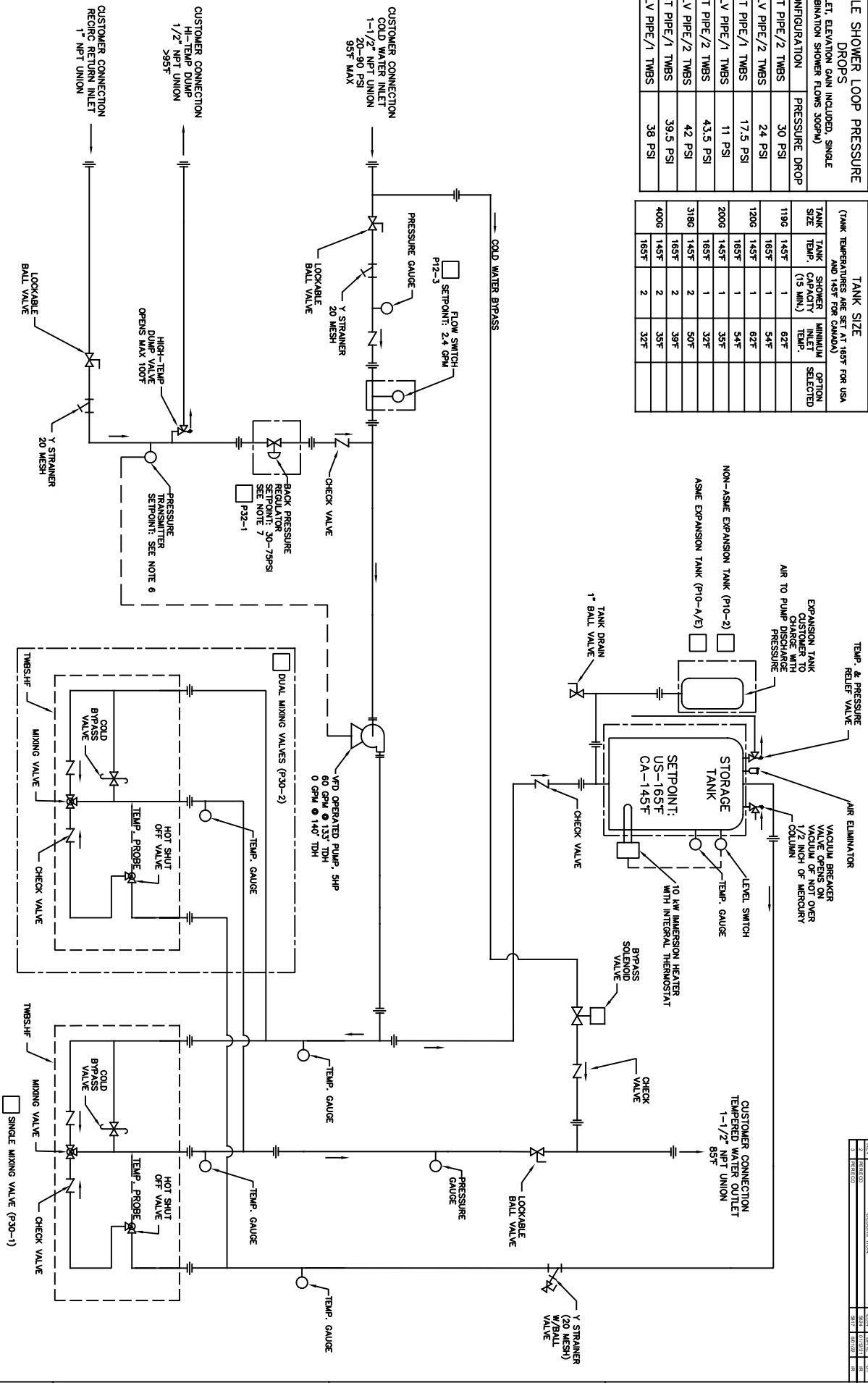
PRESSURE DROP ACROSS SKID (SHINKE COMBINATION SHOWER FLOWS 30GPM)	
SKID CONFIGURATION	PRESSURE DROP
60GPM/SST PIPE/2 TMS	17 PSI
60GPM/GALV PIPE/2 TMS	24 PSI
60GPM/SST PIPE/1 TMS	30 PSI
60GPM/GALV PIPE/1 TMS	37 PSI
30GPM/SST PIPE/2 TMS	4 PSI
30GPM/GALV PIPE/2 TMS	6 PSI
30GPM/SST PIPE/1 TMS	8 PSI
30GPM/GALV PIPE/1 TMS	10 PSI

TANK SIZE		TANK TEMPERATURE RANGE (1.65T FOR USA AND 1.50T FOR CANADA)		TANK SIZE	
TANK SIZE	TANK TEMP. (1.5 MIN.)	SLOTTED CAPACITY	MINIMUM INLET TEMP.	OPTION SELECTED	
119G	14.5T	1	6.2T		
	16.5T	1	5.4T		
120G	14.5T	1	6.2T		
	16.5T	1	5.4T		
200G	14.5T	1	3.5T		
	16.5T	1	3.2T		
316G	14.5T	2	5.0T		
	16.5T	2	3.9T		
400G	14.5T	2	3.5T		
	16.5T	2	3.2T		



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[illegible]



- [illegible]



## 8780 PART NUMBER BREAKDOWN

### PART NUMBER CONFIGURATION AND DRAWING REFERENCE GUIDELINE.

#### STEP 1:

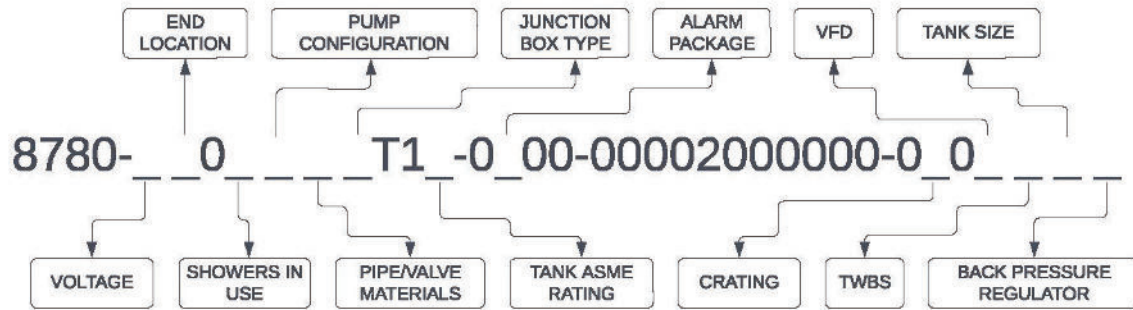
CONFIGURE PART NUMBER OR RETRIEVE PART NUMBER FROM EQUIPMENT. EXAMPLE PN: 8780-SU0D3B0T1T-0000-00002000000-0001141

#### STEP 2:

DETERMINE THE DRAWING SET THAT APPLIES TO THE CONFIGURED PART NUMBER. UNITS WITH NO PUMP OR JUST A RECIRCULATION PUMP USE DRAWINGS 0580001086.D-EL, 0580001086.D-PID AND 0580001086.D-GA. UNITS WITH A BOOSTER/RECIRCULATION PUMP AND A VFD USE DRAWINGS 0580001086.D-VFD EL, 0580001086.D-VFD PID AND 0580001086.D-VFD GA.

#### STEP 3:

USE THE TABLES BELOW TO DETERMINE WHICH SECTIONS OF THE DRAWINGS APPLY.



VOLTAGE	PN	DRAWING REFERENCE
208V 1PH 60HZ	1	P1-1
208V 3PH 60HZ	2	P1-2
240V 1PH 60HZ	3	P1-3
240V 3PH 60HZ	4	P1-4
480V 3PH 60HZ	5	P1-5
600V 3PH 60HZ	6	P1-6

END LOCATION	PN	DRAWING REFERENCE
UNITED STATES	U	P2-U
CANADA	S	P2-S

SHOWERS IN USE	PN	DRAWING REFERENCE
ONE (30GPM)	S	P4-S
TWO (60GPM)	D	P4-D

PUMP CONFIGURATION	PN	DRAWING REFERENCE
NO PUMP	0	0580001086.D-EL, P5-0 0580001086.D-PID, P5-0 0580001086.D-GA, P5-0
RECIRCULATION PUMP	1	0580001086.D-EL, P5-1 0580001086.D-PID, P5-1 0580001086.D-GA, P5-1
BOOSTER/RECIRC. PUMP (VFD INCLUDED)	3	0580001086.D-VFD EL, P5-3 0580001086.D-VFD PID, P5-3 0580001086.D-VFD GA, P5-3

PIPE AND VALVE MATERIALS	PN	DRAWING REFERENCE
GALVANIZED PIPE WITH BRASS VALVES AND STRAINERS	G	P6-G
304 SST PIPE WITH BRASS VALVES AND STRAINERS	B	P6-B
304 SST PIPE WITH STAINLESS STEEL VALVES AND STRAINERS	S	P6-S

JUNCTION BOX TYPE	PN	DRAWING REFERENCE
TYPE 4	0	P7-0
TYPE 4X	1	P7-1

TANK ASME RATING	PN	DRAWING REFERENCE
NON-ASME EXPANSION TANK	T	P10-T
ASME TANKS	A	P10-A
ASME EXPANSION TANK ONLY	E	P10-E

IN-USE ALARM PACKAGE	PN	DRAWING REFERENCE
NONE	0	-
FLOW SWITCH WITH ISOLATED ALARM DRY CONTACTS	3	P12-3

CRATING	PN
STANDARD	0
PREMIUM	1

VFD	PN	DRAWING REFERENCE
NONE	0	0580001086.D-EL 0580001086.D-PID 0580001086.D-GA
INCLUDED (BOOSTER/RECIRC. PUMP ONLY)	1	0580001086.D-VFD EL 0580001086.D-VFD PID 0580001086.D-VFD GA

TWBS	PN	DRAWING REFERENCE
ONE	0	P30-1
TWO	1	P30-2

TANK SIZE (GAL)	PN	DRAWING REFERENCE
119	0	P31-0
120	1	P31-1
200	2	P31-2
318 (NON-VFD, 125PSI)	3	P31-3
318 (VFD, 150PSI)	4	P31-4
400 (NON-VFD, 125PSI)	5	P31-5
400 (VFD, 150PSI)	6	P31-6

BACKPRESSURE REGULATOR	PN	DRAWING REFERENCE
NONE	0	-
INCLUDED	1	P32-1