

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 skid-mounted tempering system shall include an aluminum 5' x 5' (1.5 x 1.5 m) frame with a composite equipment platform, with high visibility green 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 NEMA4 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

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.hawsc.com or call (888) 640-4297.

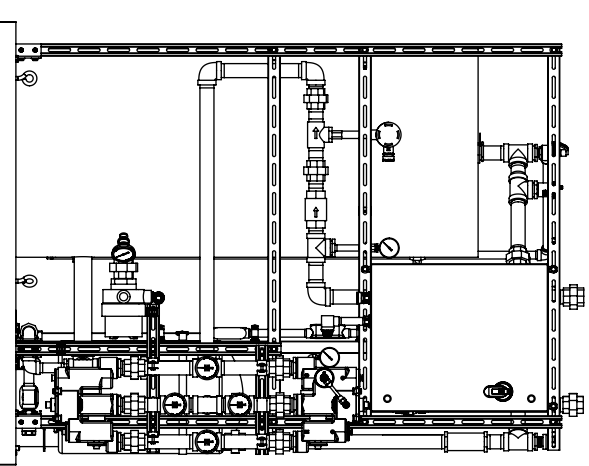
Perfect for indoor facilities that may encounter dangerous chemical hazards and need a complete tempering system, and/or need a feeder to other remote booth substations or other drench systems and/or eyewash stations.

MODELS WITH RECIRCULATION PUMP OR NO PUMP

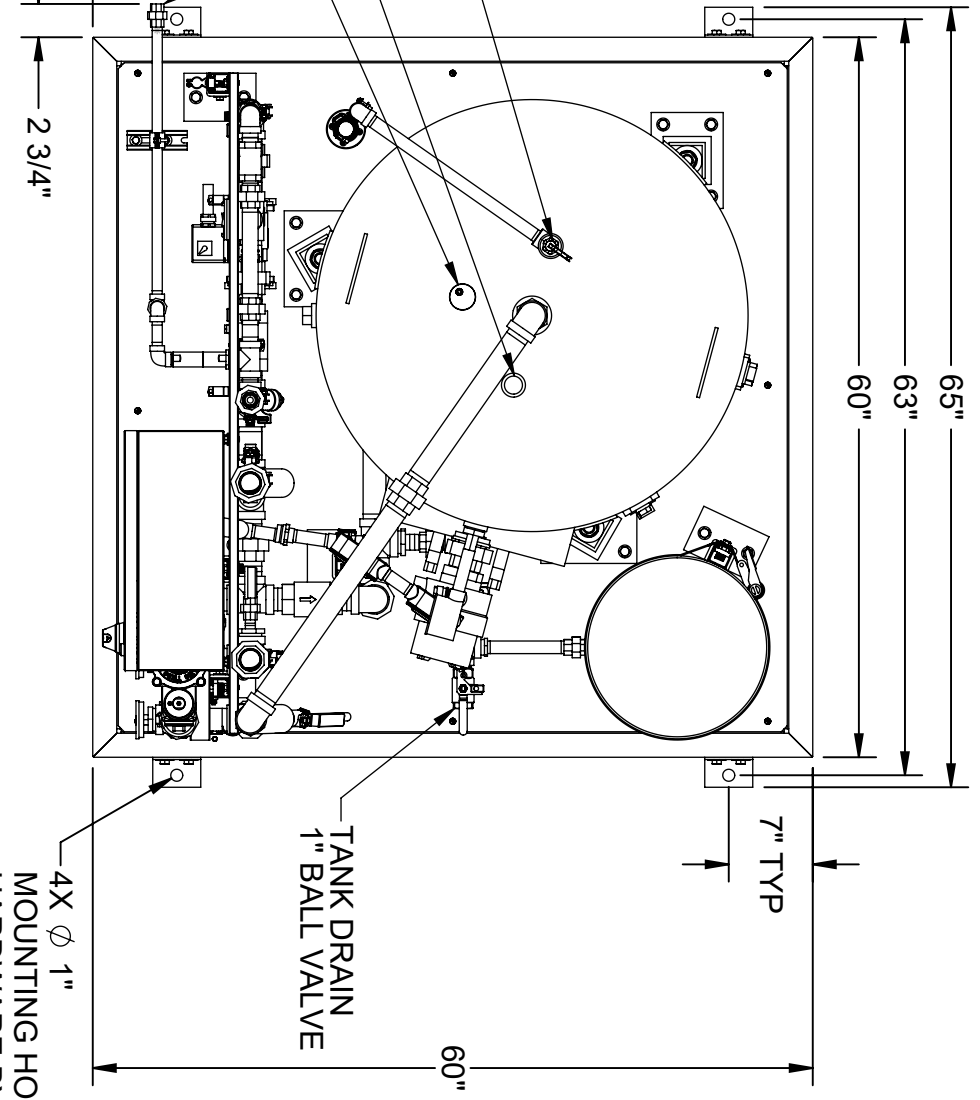
- NOTES:
1. DIMENSIONS IN INCHES.
 2. ALL TOLERANCES: $\pm 1/2"$.
 3. ESTIMATED WEIGHT:
 4. DRY: 1200 LB
WET: 3900 LB
 5. AREA CLASSIFICATION: ORDINARY
 6. AMBIENT TEMPERATURE: 32°F-104°F
 7. NOT ALL FEATURES ARE STANDARD

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

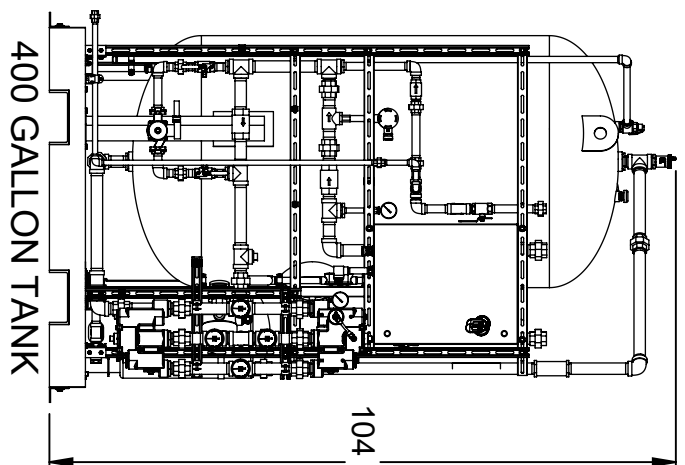
TANK SIZE			
<small>(TANK TEMPERATURES ARE SET AT 165°F FOR USA AND 145°F FOR CANADA)</small>			
TANK SIZE	TANK TEMP.	SHOWER CAPACITY (15 MIN.)	MINIMUM INLET TEMP. / OPTION SELECTED
119G	145°F	1	62°F
119G	165°F	1	54°F
120G	145°F	1	62°F
120G	165°F	1	54°F
200G	145°F	1	35°F
200G	165°F	1	32°F
318G	145°F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



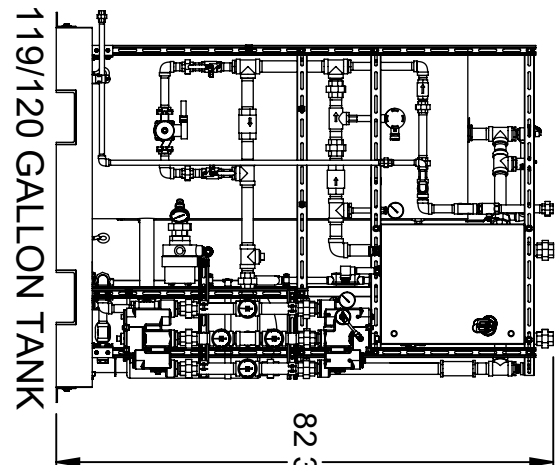
119/120 GALLON TANK, NO PUMP



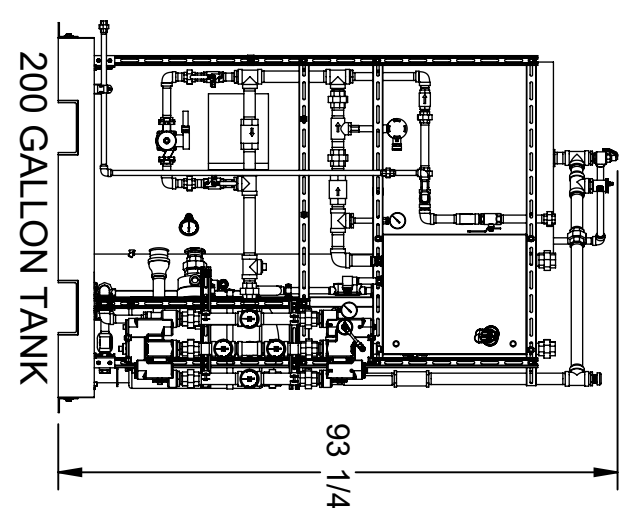
119/120 GALLON TANK



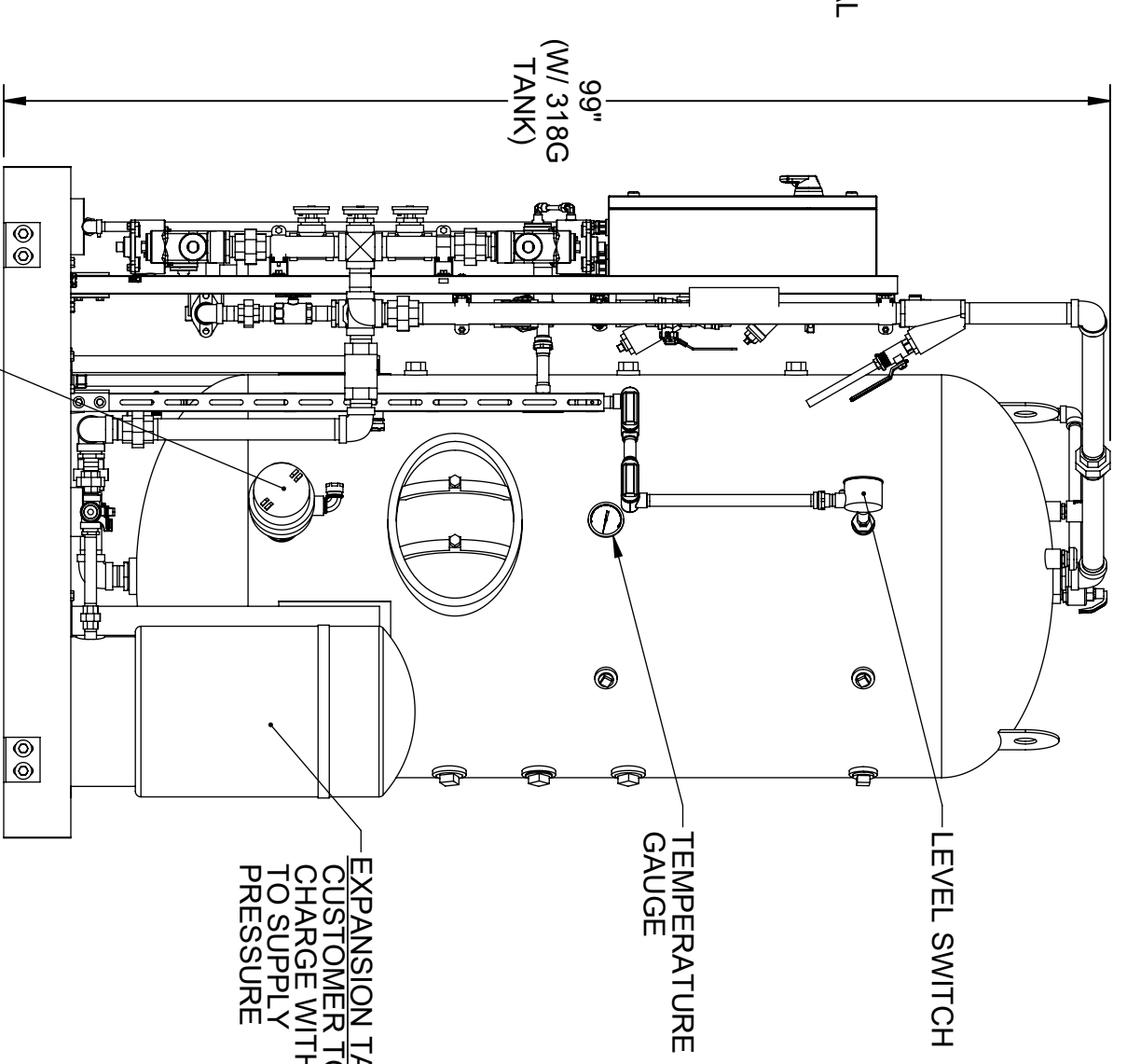
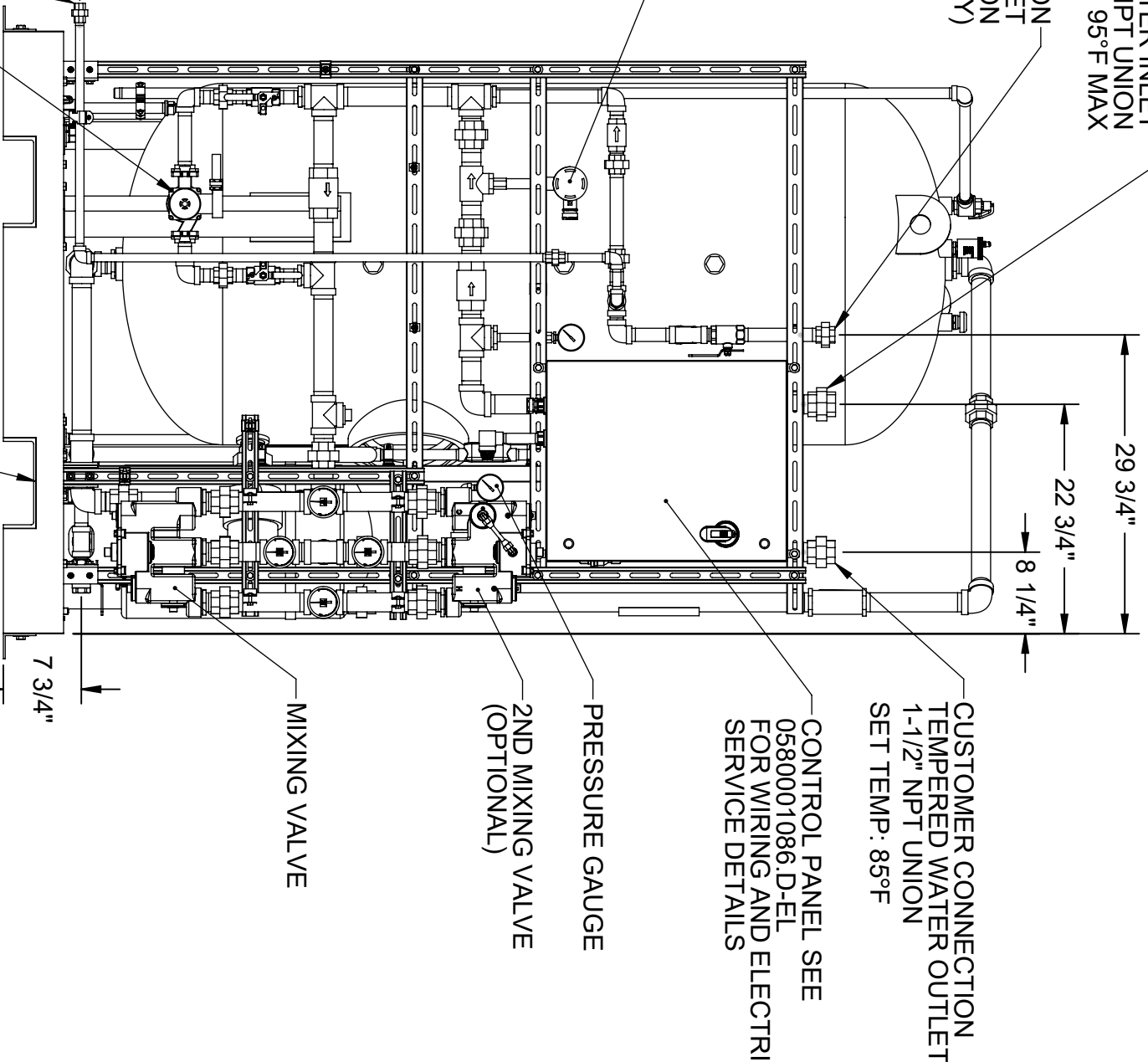
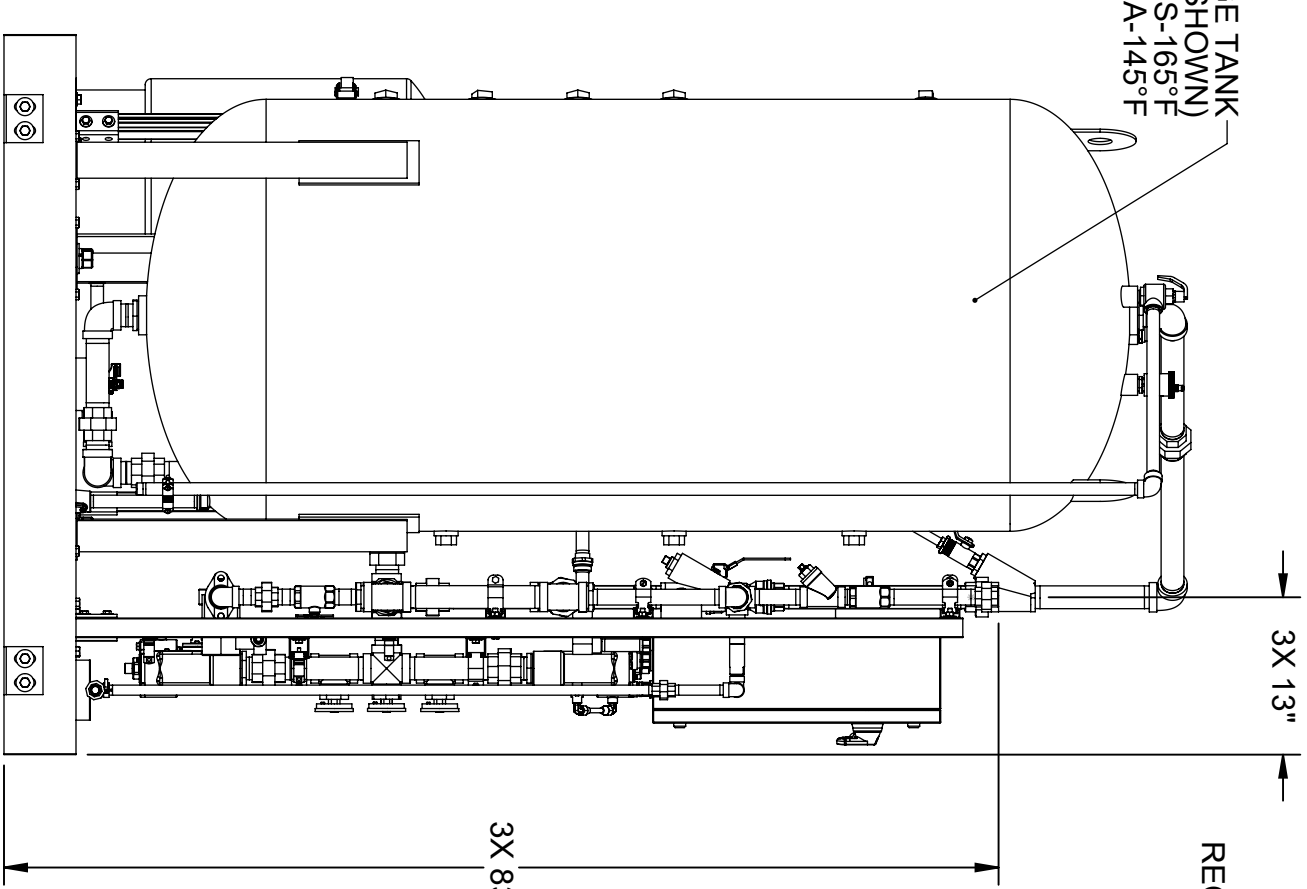
400 GALLON TANK



119/120 GALLON TANK



200 GALLON TANK



CUSTOMER CONNECTION HI-TEMP VALVE DUMP 1/2" NPT UNION (RECIRCULATION PUMP UNITS ONLY)

RECIRCULATION PUMP 10 GPM @ 24' TDH 0 GPM @ 31' TDH (OPTIONAL)

IMMERSION HEATER

EXPANSION TANK CUSTOMER TO CHARGE WITH AIR TO SUPPLY PRESSURE

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.

JOB NUMBER: DP		TITLE: INDOOR EMERGENCY WATER TEMPERING SKID	
DRAWN BY: JSLP		THIRD ANGLE PROJECTION	
CHECKED DATE: 07/06/22		SCALE: 1:10	
APPROVED BY: IR		PART NO: 0589001086; D-GA	
APPROVAL DATE: 07/06/22		REV: 3	

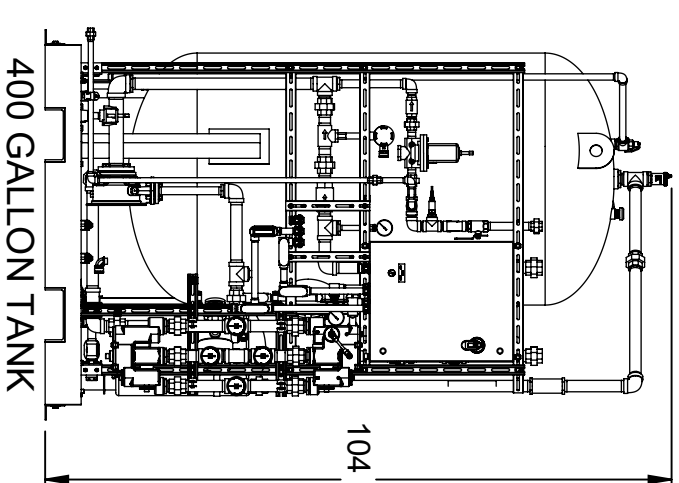
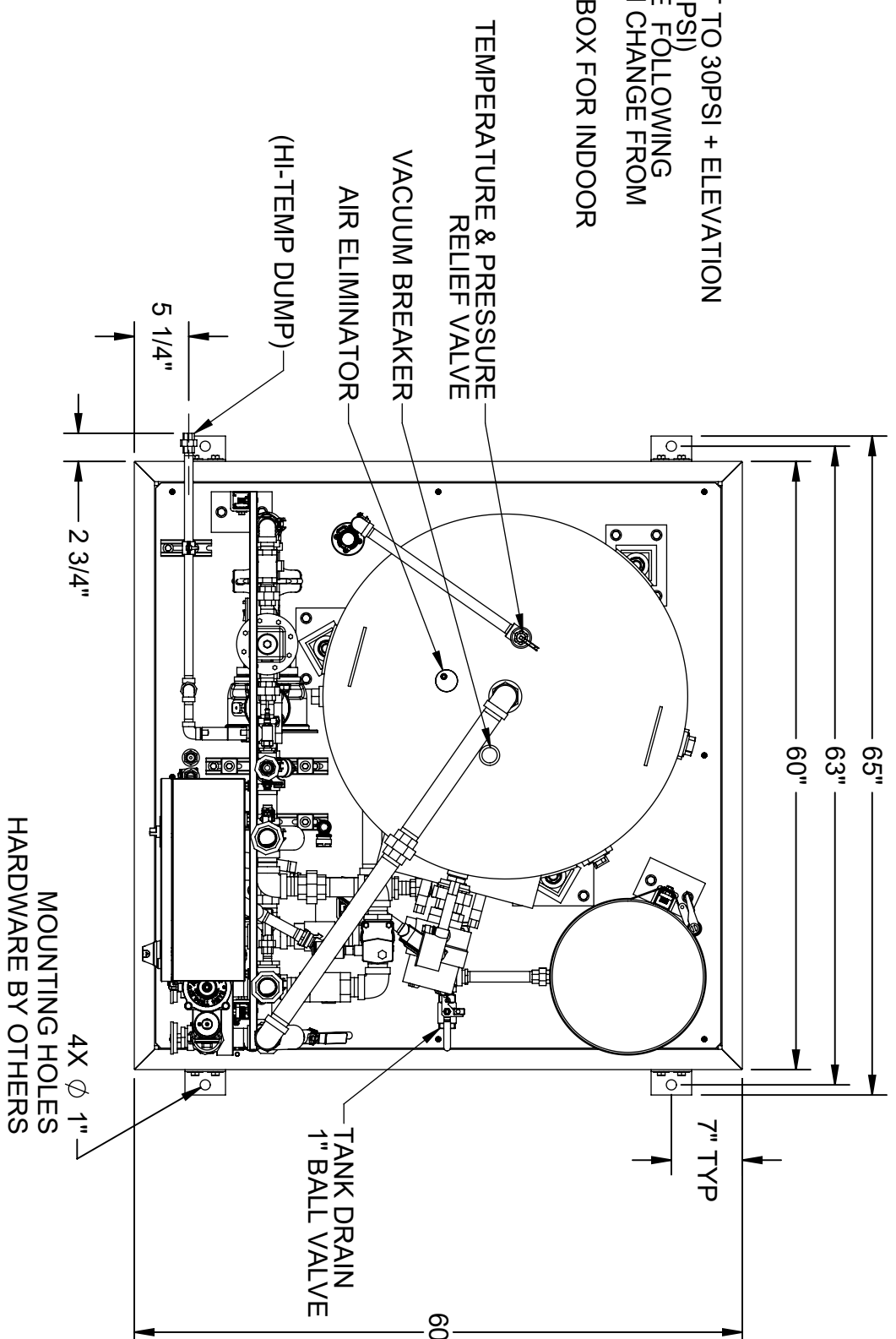
HAWS® 1455 KLEPPE LANE SPARKS, NEVADA 89431

MODELS WITH VFD RECIRC/BOOSTER PUMP

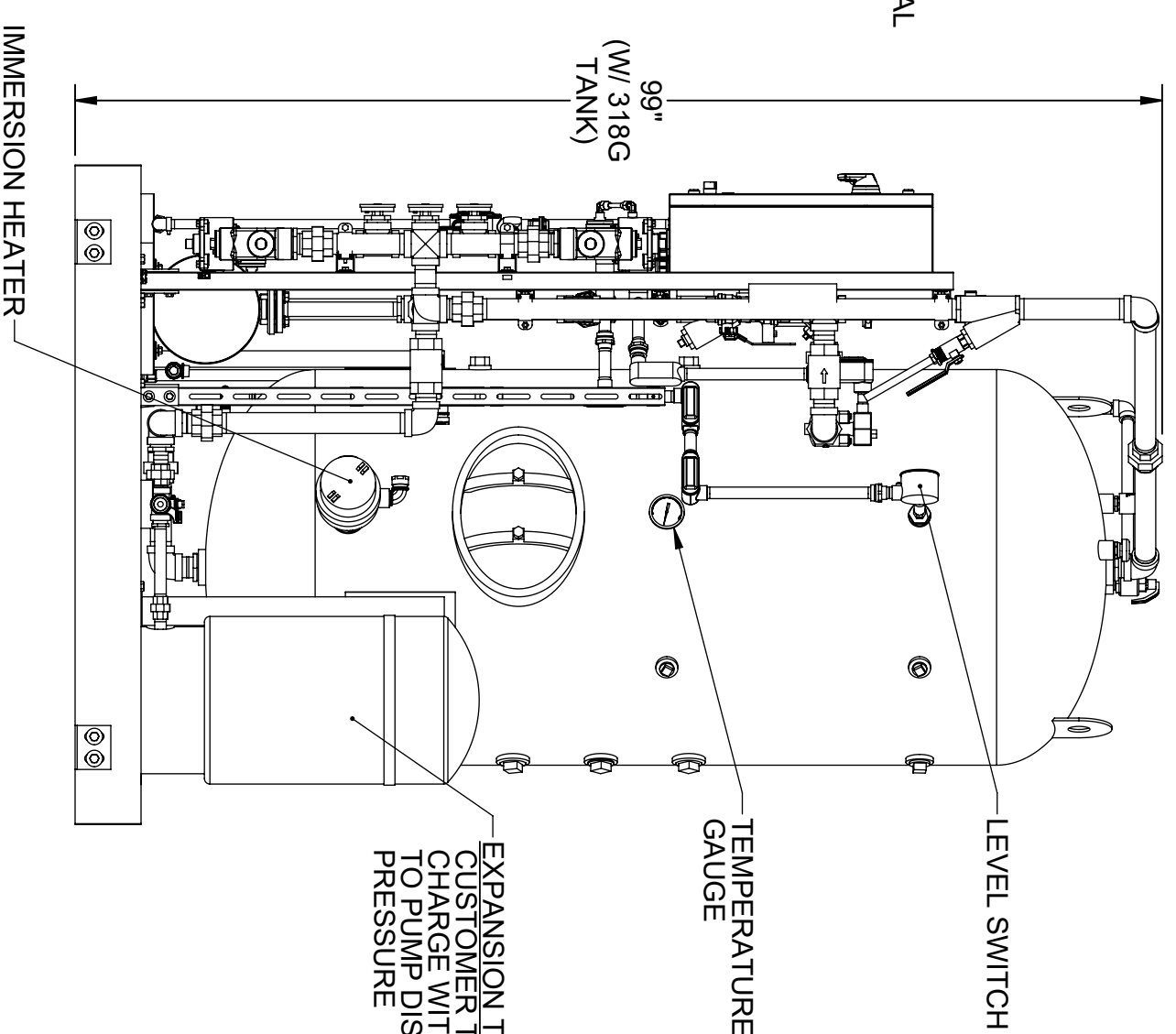
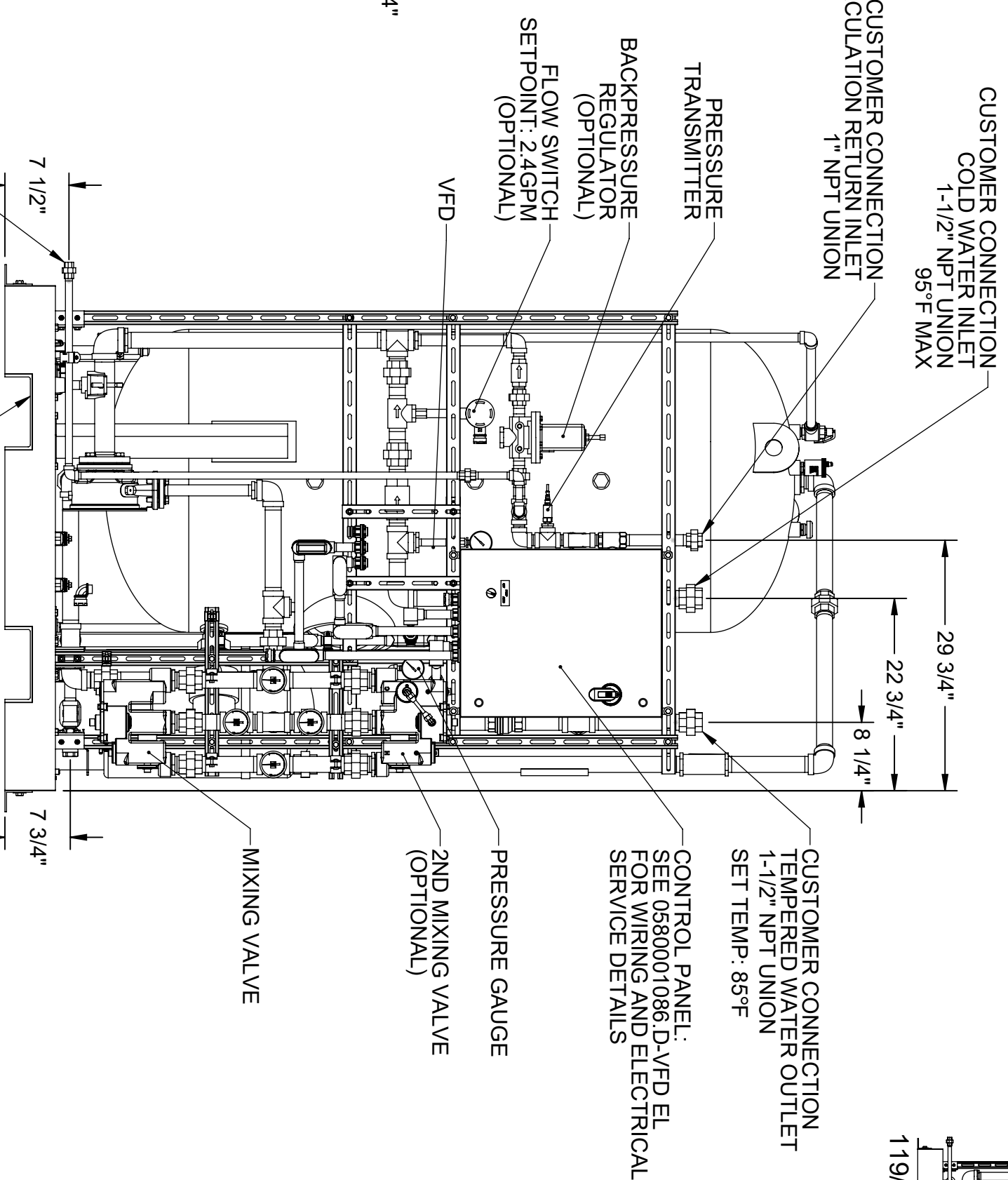
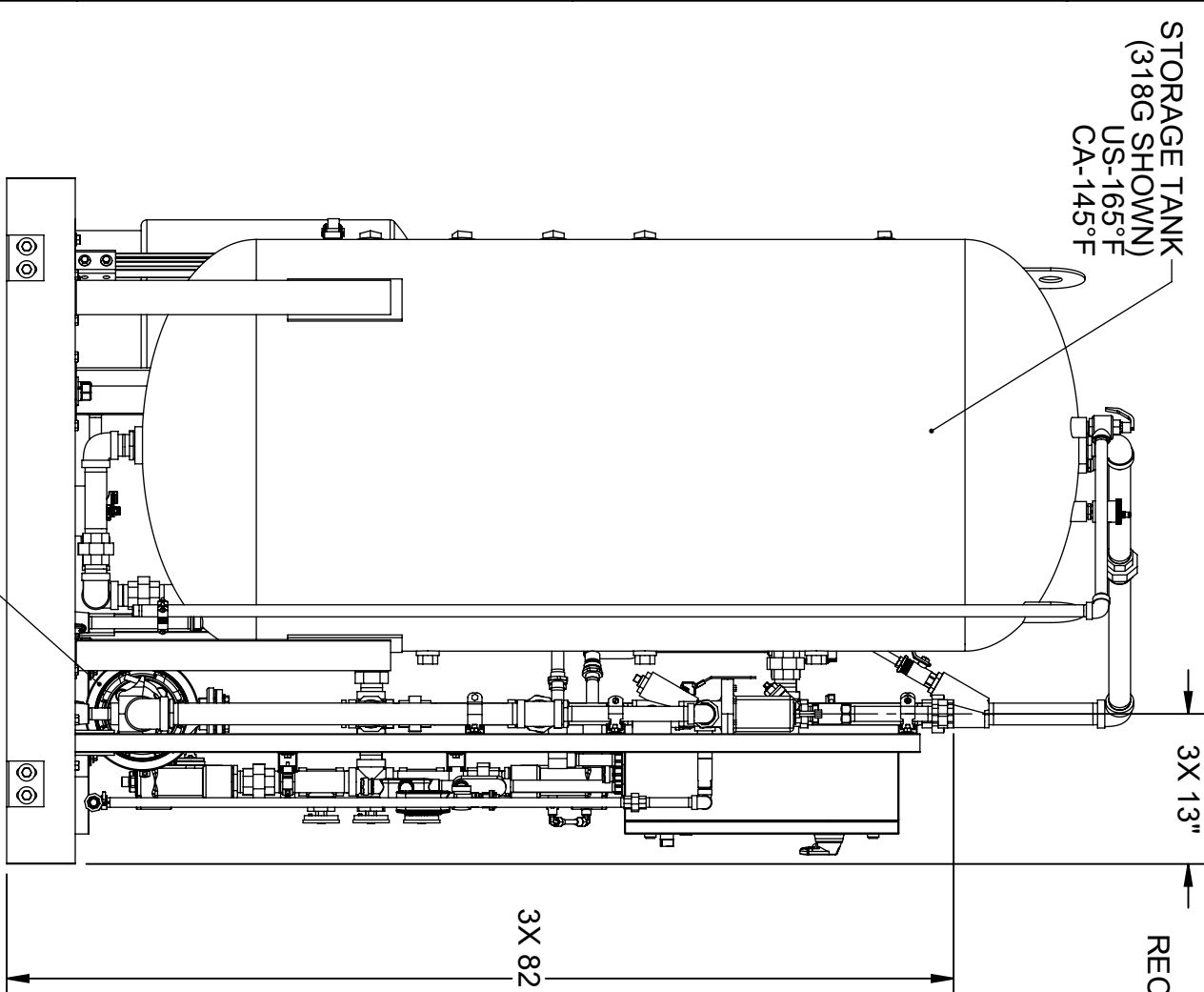
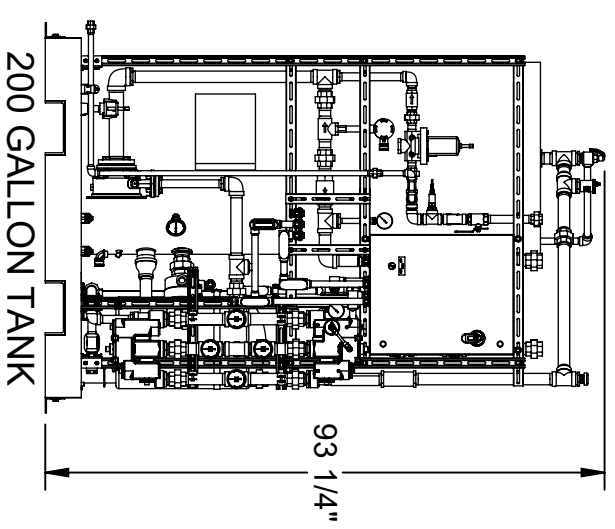
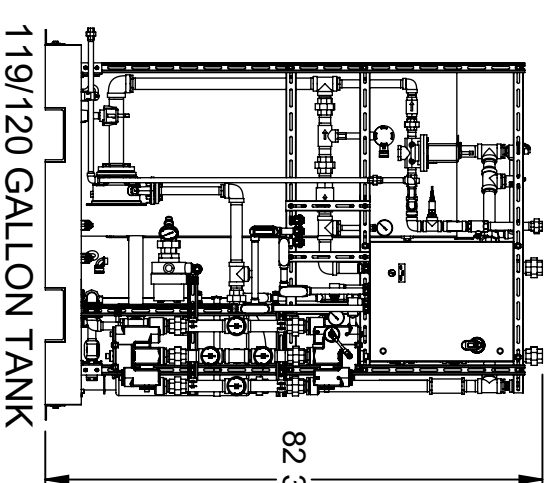
REVISIONS		ECH	DATE	BY
REV	DESCRIPTION	3817	6/9/22	IR
3	PER ECO			

- NOTES:
- DIMENSIONS IN INCHES
 - ALL TOLERANCES: ±1/2"
 - ESTIMATED WEIGHT:
 - DRY: 1200 LB
WET: 3900 LB
 - AREA CLASSIFICATION: ORDINARY
 - AMBIENT TEMPERATURE: 32°F-104°F
 - NOT ALL FEATURES ARE STANDARD
 - RECOMMENDED RECIRCULATION FLOWRATE: 10GPM
 - PRESSURE TRANSMITTER SETPOINT IS TYPICALLY SET TO 30PSI + ELEVATION
 - CHANGE FROM SKID TO HIGHEST SHOWER (1FT = 43PSI)
 - A BACK PRESSURE REGULATOR IS REQUIRED FOR THE FOLLOWING CONDITION: SUPPLY PRESSURE < 30PSI + ELEVATION FROM SKID TO HIGHEST SHOWER
 - RATINGS: CONFIGURABLE WITH TYPE 4/4X JUNCTION BOX FOR INDOOR LOCATION

OPTIONS		DWG REF.
PUMP CONFIGURATION	BOOSTER/RECIRC W/ VFD	P5-3
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



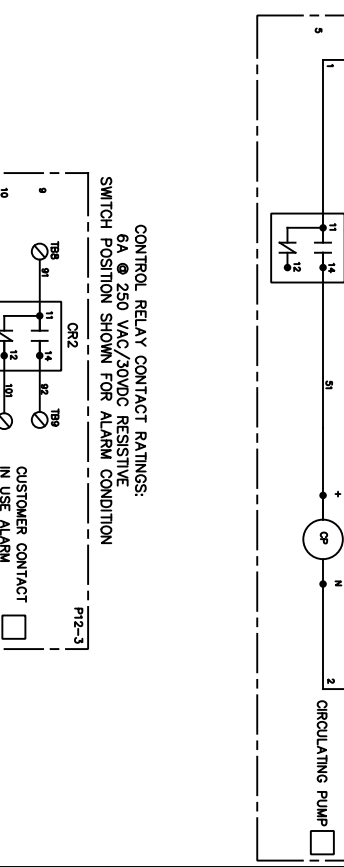
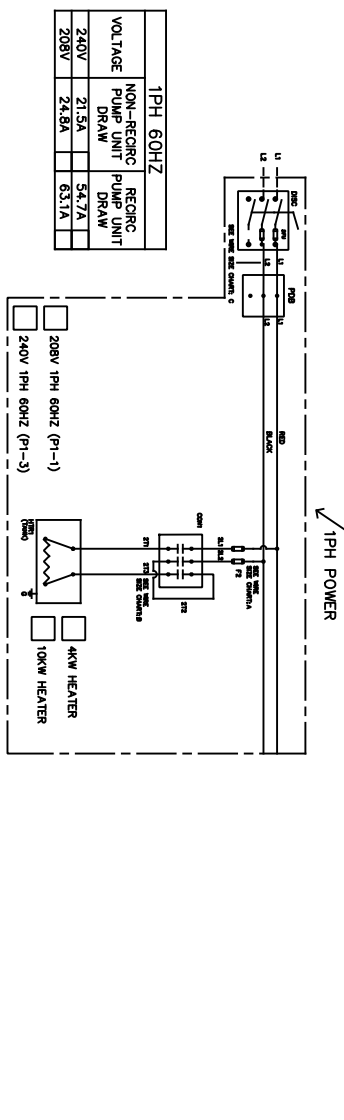
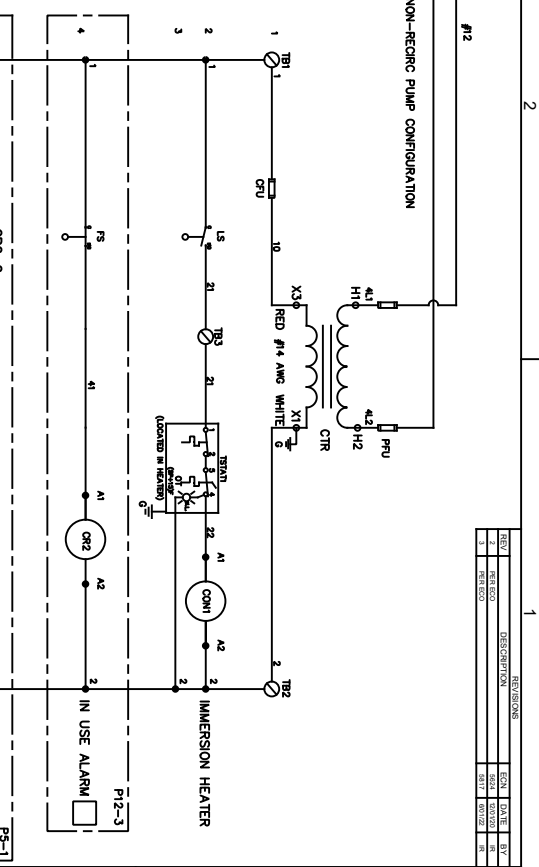
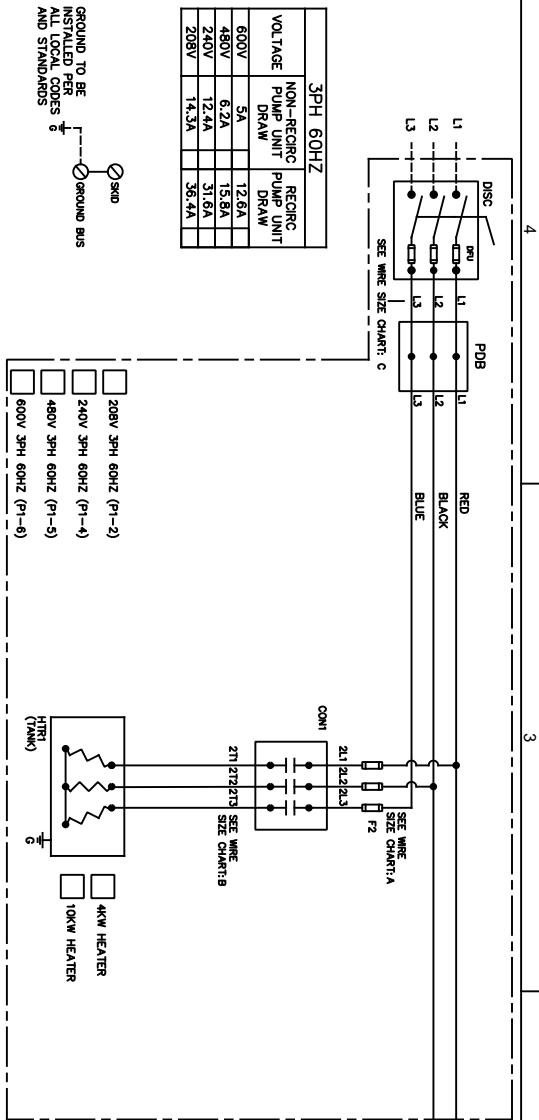
TANK SIZE			
(TANK TEMPERATURES ARE SET AT 165°F FOR USA AND 145°F FOR CANADA)			
TANK SIZE	TANK TEMP.	SHOWER CAPACITY (15 MIN.)	MINIMUM INLET TEMP. / OPTION SELECTED
119G	145°F	1	62°F
119G	165°F	1	54°F
120G	145°F	1	62°F
120G	165°F	1	54°F
200G	145°F	1	35°F
200G	165°F	1	32°F
318G	145°F	2	50°F
318G	165°F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



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/TAGS#:		TITLE	
JOB NUMBER:	DP	INDOOR EMERGENCY WATER TEMPERING SKID	
DRAWN BY:	06/16/21	THIRD ANGLE PROJECTION	
DRAWN DATE:	JSLP	SCALE SIZE PART NO. 1:10 C 0580001086.D-GA	
CHECKED BY:	07/06/22	NOTICE OF PROPRIETARY INFORMATION: THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF HAWES CORPORATION AND IS NOT TO BE DISCLOSED, REPRODUCED, OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF HAWES CORPORATION.	
CHECKED DATE:	IR	APPROVED BY: GA SH 1 OF 1	
APPROVED BY:	07/06/22	APPROVAL DATE: 07/06/22	

REV	DESCRIPTION	DATE	BY
1	REVISED	05/05/20	RE
2	REVISED	05/05/20	RE
3	REVISED	05/05/20	RE



OPTIONAL FEATURE THAT CAN BE CONFIGURED WHEN PURCHASED

NON-RECIRC PUMP CONFIGS. FUSE CHART

DRU	F2	PFU	CFU
208V 1PH 30A	25A	1.25A	1A
240V 1PH 30A	25A	1A	1A
208V 3PH 30A	1.5A	1.25A	1A
240V 3PH 30A	1.2A	1A	1A
480V 3PH 30A	6A	.5A	1A
600V 3PH 30A	5A	.5A	1A
FUSE TYPE	JKS	KLRT	KLDRT

WIRE SIZE CHART

	A	B	C
4KW 10K/W	#4	#6	#8
10KW 10K/W	#4	#6	#8
4KW 10K/W	#6	#8	#10
10KW 10K/W	#6	#8	#10
208V 1PH #8	#4	#6	#8
240V 1PH #8	#4	#6	#8
208V 3PH #10	#6	#8	#10
240V 3PH #10	#6	#8	#10
480V 3PH #12	#8	#10	#12
600V 3PH #12	#8	#10	#12

COMPONENT DESIGNATION

CRU - CONTROL POWER FUSE
 CP - CIRCULATING PUMP UNIT, TANK HEATER
 CTR - CONTROL RELAY FOR ALARM NOTIFICATION
 DISC - DISCONNECT SWITCH
 F1 - PUMP FUSE
 F2 - TANK HEATER FUSE
 FS - FLOW SWITCH
 HTRI - NON-RECIRC PUMP/TANK HEATER
 HTR - NON-RECIRC PUMPS - 10KW
 LS - LEVEL SWITCH
 PDB - POWER DISTRIBUTION BLOCK
 PMP - PUMP FUSE
 TB - TERMINAL BLOCK
 TST1A1 - TANK HEATER THERMOSTAT

RECIRC PUMP CONFIGS. FUSE CHART

DRU	F2	PFU	CFU
208V 1PH 100A	60A	6A	5.6A
240V 1PH 60A	60A	5.6A	5.6A
208V 3PH 60A	3.5A	6A	5.6A
240V 3PH 60A	3.0A	5.6A	5.6A
480V 3PH 30A	1.5A	2.8A	5.6A
600V 3PH 30A	1.2A	2A	5.6A
FUSE TYPE	JKS	KLRT	KLDRT

OPTIONAL FEATURE THAT CAN BE CONFIGURED WHEN PURCHASED

CONTROL RELAY CONTACT RATINGS:
 6A @ 250 VAC/30VDC RESISTIVE
 SWITCH POSITION SHOWN FOR ALARM CONDITION

CONDUCTOR TERMINAL RATING

DISCONNECT SIZE	CONDUCTOR SIZE (AWG)	TORQUE VALUE (IN-LBS)	DRY CONTACTS SIZE (AWG)	TORQUE VALUE (IN-LBS)
100A	14-2/0	133-194	14-20	PUSH-IN
60A	14-4	30-35	14-20	PUSH-IN
30A	18-8	13-18		

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.

APPROVALS

DATE	DATE	TITLE
01/18/20	07/06/22	8780 - INDOOR EMERGENCY WATER TEMPERING SKID

DESIGNED BY: 07/06/22
 CHECKED BY: 07/06/22
 APPROVED BY: 07/06/22

CONTRACTOR INFORMATION

COMPANY NAME	ADDRESS	CITY	STATE	ZIP
HAWES CORPORATION	1406 WEBER BLVD	SPRING VALLEY	CA	94581

PROJECT NUMBER: 0580001086 D-EL

SCALE: 1/1

DATE: 07/06/22

BY: [Signature]

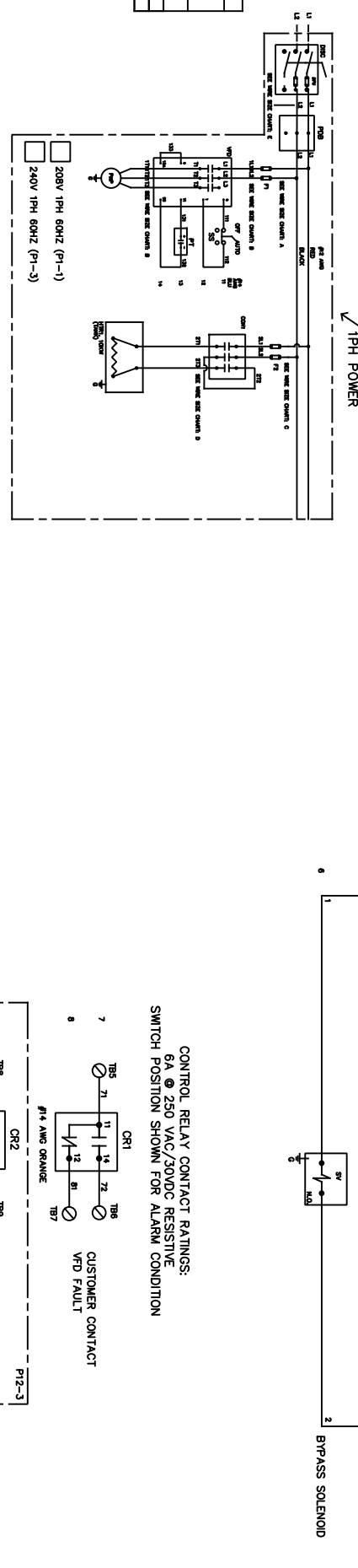
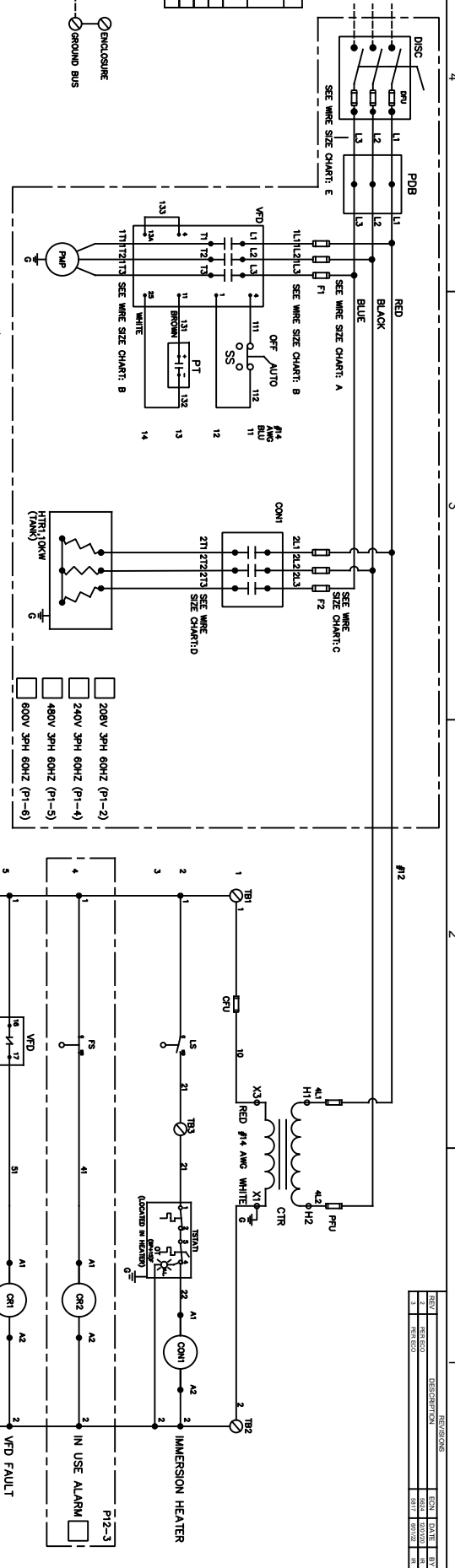
HAWS CORPORATION

1406 WEBER BLVD
 SPRING VALLEY, CA 94581

HAWS CORPORATION AND THIS OCCUPANT AND THE DESIGNER SHALL BE DISCLOSED IN ALL MANNER WITHOUT HAWES' EXPRESS WRITTEN CONSENT.

HAWS' EXPRESS WRITTEN CONSENT.

REV	DESCRIPTION	DATE	BY
1	REVISED	05/10/20	MS
2	REVISED	05/10/20	MS
3	REVISED	05/10/20	MS



COMPONENT DESIGNATION

CRU - CONTROL POWER FUSE
 CRV - CONTROL RELAY FOR TANK HEATER
 CR1 - CONTROL RELAY FOR ALARM NOTIFICATION
 CR2 - CONTROL RELAY FOR ALARM NOTIFICATION
 CR3 - CONTROL RELAY FOR ALARM NOTIFICATION
 CR4 - CONTROL RELAY FOR ALARM NOTIFICATION
 CTR - CONTROL POWER TRANSFORMER - 100VA @ 120V
 DISC - DISCONNECT SWITCH
 P - PUMP
 F2 - TANK HEATER FUSE
 F3 - SPACE HEATER FUSE
 FS - FLOW SWITCH
 HTR1 - HEATER TANK, 10KW
 HTR2 - HEATER TANK, 10KW
 LTR1 - LEAK DETECTOR
 PDB - POWER DISTRIBUTION BLOCK
 PPU - PUMP
 PRT - PRESSURE TRANSMITTER
 SS - SELECTOR SWITCH OFF/AUTO
 TB - TERMINAL BLOCK
 TST1 - TANK HEATER THERMOSTAT
 VFD - VARIABLE FREQUENCY DRIVE

CONDUCTOR TERMINAL RATING

VOLTAGE	CONDUCTOR SIZE (AWG)	TORQUE VALUE (IN-LBS)	CONDUCTOR SIZE (AWG)	TORQUE VALUE (IN-LBS)
208V 1PH	14-2/0	133-194		
240V 1PH	14-2/0	133-194		
208V 3PH	14-4	30-35		
240V 3PH	14-4	30-35		
480V 3PH	18-8	13-18		
600V 3PH	18-8	13-18		

FUSE CHART

CRU	CR1	CR2	CR3	CR4	PPU	CRU
208V 1PH	100A	43A	60A	60A	125A	1A
240V 1PH	100A	43A	60A	60A	1A	1A
208V 3PH	60A	30A	35A	30A	1.25A	1A
240V 3PH	60A	30A	35A	30A	1A	1A
480V 3PH	30A	20A	15A	15A	.5A	1A
600V 3PH	30A	12A	12A	12A	.5A	1A

OPTIONAL FEATURE THAT CAN BE CONFIGURED WHEN PURCHASED

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

NOTES:

- AREA CLASSIFICATION: ORDINARY
- AVAILABLE AMBIENT TEMPERATURE RANGE: 32°F - 104°F
- RATINGS: CONFIGURABLE WITH TYPE 44X JUNCTION BOX FOR INDOOR LOCATION

HAWE'S 1466 HERBERT BLVD. SPRINGS, NEVADA 89441

8780 - INDOOR EMERGENCY WATER TEMPERING SKID VVFD PUMP

DATE: 07/20/22
 DRAWN BY: 07/20/22
 CHECKED BY: 07/20/22
 DESIGNED BY: 07/20/22

NOTE: FOR PROTECTIVE AND SAFETY PURPOSES, THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR REPAIR OF THE EQUIPMENT UNLESS THE ORIGINAL DRAWING IS REFERENCED AND THE ORIGINAL DRAWING IS USED TO DETERMINE THE CORRECT PART NUMBER AND QUANTITY.

SCALE: 1/1

REV: 3

REV	DESCRIPTION	DATE	BY
1	ISSUED	02/12/2022	MS
2	REVISED	02/12/2022	MS

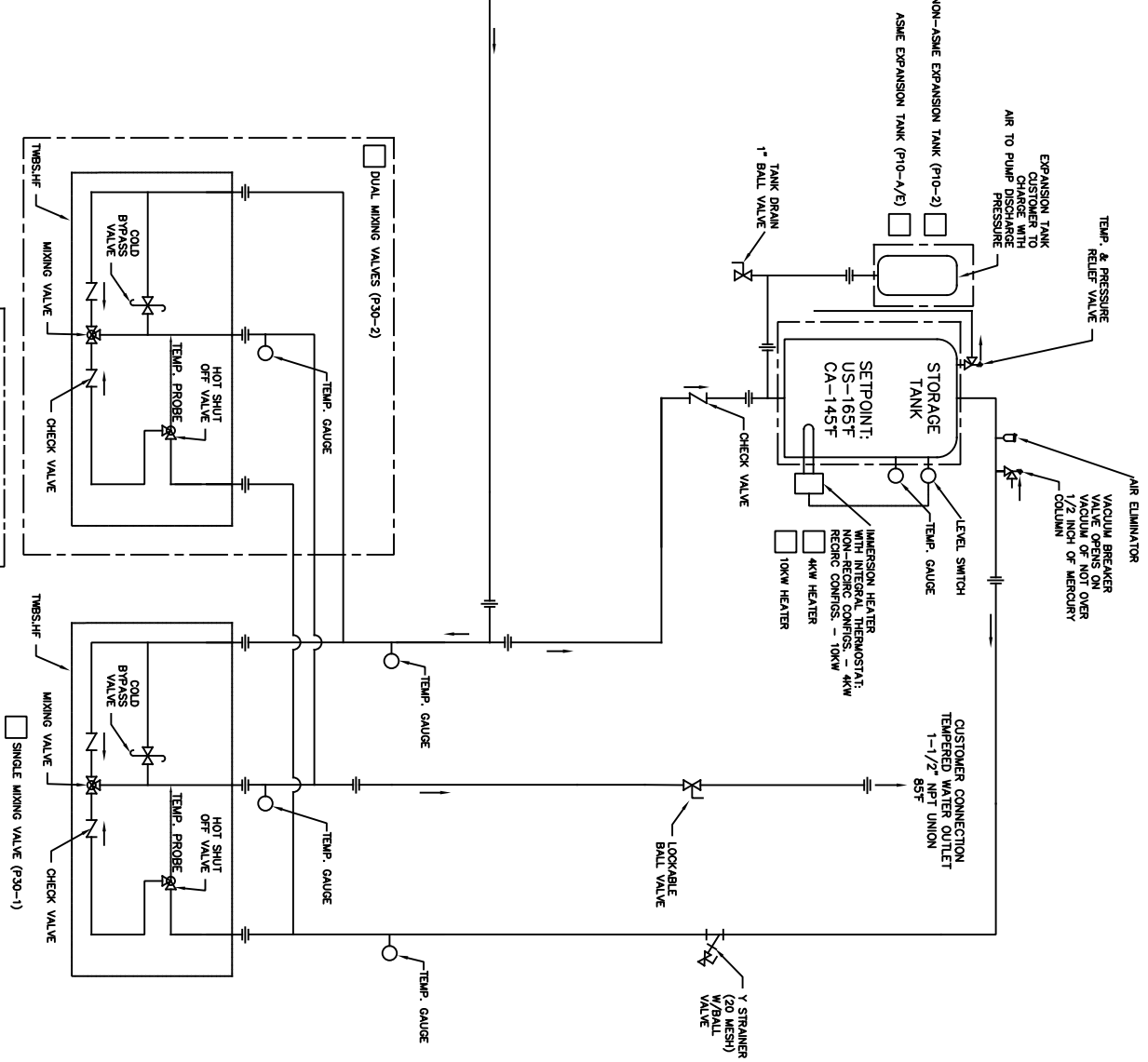
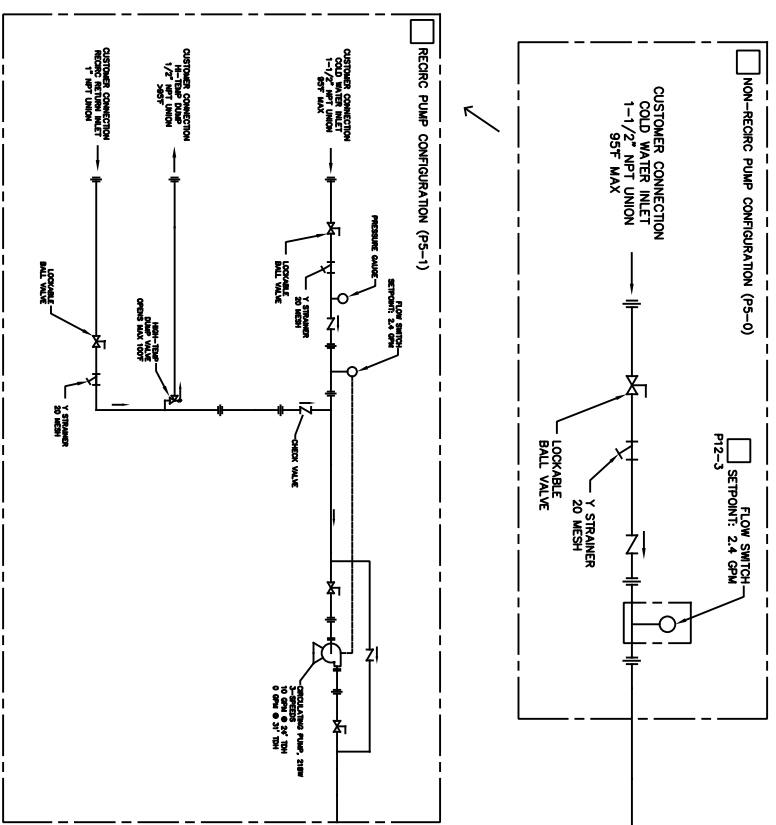
- NOTES:
1. AREA CLASSIFICATION: ORDINARY
 2. AVAILABLE AMBIENT TEMPERATURE RANGE: 32°F - 104°F
 3. SEE TABLE 1 FOR PRESSURE DROP ACROSS SKID. SHOWERS AND EYEWASHES REQUIRE 30PSI MINIMUM AT THEIR HIGHEST FLOW RATE.
 4. RATINGS: CONFIGURABLE WITH TYPE 4/4X JUNCTION BOX FOR INDOOR LOCATION

TABLE 1
PRESSURE DROP ACROSS SKID
(SINGLE COMBINATION SHOWER FLOWS 30GPM)

SKID CONFIGURATION	PRESSURE DROP
60GPM/SST PIPE/2 TMS	24 PSI
60GPM/GALV PIPE/2 TMS	27 PSI
60GPM/SST PIPE/1 TMS	30 PSI
60GPM/GALV PIPE/1 TMS	37 PSI
300GPM/SST PIPE/2 TMS	4 PSI
300GPM/GALV PIPE/2 TMS	6 PSI
300GPM/SST PIPE/1 TMS	8 PSI
300GPM/GALV PIPE/1 TMS	10 PSI

TANK SIZE
(TANK TEMPERATURES ARE SET AT 185°F FOR USA AND 145°F FOR CANADA)

TANK SIZE	SHOWER CAPACITY (15 MIN.)	MINIMUM INLET TEMP.	OPTION SELECTED
1196	1	62°F	
1457	1	54°F	
1206	1	62°F	
1657	1	54°F	
2006	1	35°F	
1657	1	32°F	
3186	2	50°F	
1457	2	39°F	
4006	2	35°F	
1657	2	32°F	



OPTIONAL FEATURE THAT CAN BE CONFIGURED WHEN PURCHASED

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 HAWES EXPRESS WRITTEN CONSENT.

Hawes 1465 WELPHE LANE SPARKS, NEVADA 89631 USA

8780 - INDOOR EMERGENCY WATER TEMPERING SKID

APPROVALS	DATE
DESIGNED BY: [Signature]	02/18/2022
CHECKED BY: [Signature]	02/18/2022
CONTRACT NUMBER	0198922

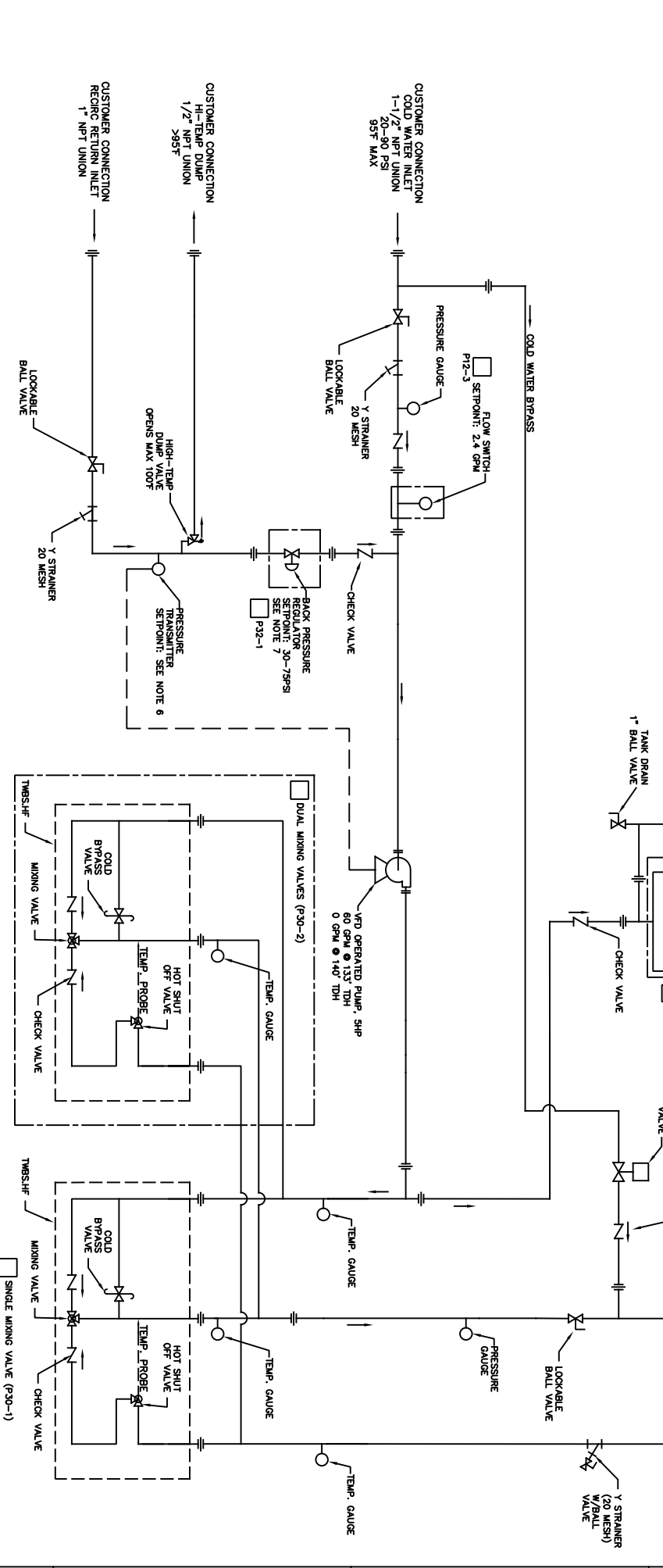
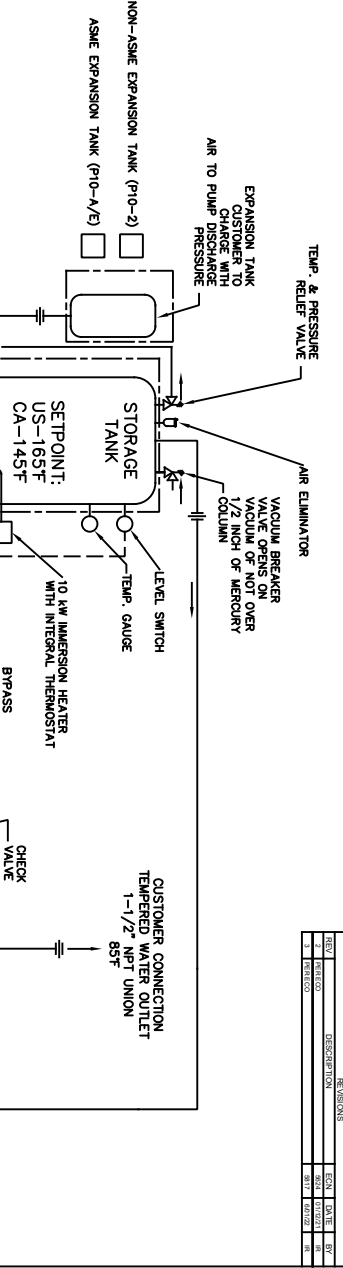
NOTE: APPROVED CONTRACT NUMBER IS THE SKID PROJECT #. THIS SKID IS TO BE USED IN ACCORDANCE WITH THE INDOOR EMERGENCY WATER TEMPERING SKID DESIGN. THE REMOVAL OF PLUMB COMPONENTS IS NOT PERMITTED.

SCALE	SIZE	PROJECT NUMBER
N/A	C	0589001086 D-PPID

THIRD ANGLE PROJECTION

REV	DESCRIPTION	DATE	BY
1	ISSUED	05/10/2022	SP
2	REVISED	05/10/2022	SP
3	REVISED	05/10/2022	SP

ALLOWABLE SHOWER LOOP PRESSURE DROPS (20PSI INLET, ELEVATION GAIN INCLUDED, SINGLE COMBINATION SHOWER FLOWS 30GPM)		TANK SIZE (TANK TEMPERATURES ARE SET AT 185°F FOR USA AND 145°F FOR CANADA)			
SKID CONFIGURATION	PRESSURE DROP	TANK SIZE	SHOWER CAPACITY (15 MIN.)	MINIMUM INLET TEMP.	OPTION SELECTED
60GPM/SST PIPE/2 TWBS	30 PSI	1180	145F	1	82F
60GPM/GALV PIPE/2 TWBS	24 PSI	1200	145F	1	82F
60GPM/SST PIPE/1 TWBS	17.5 PSI	1200	145F	1	82F
60GPM/GALV PIPE/1 TWBS	11 PSI	145F	1	54F	
30GPM/SST PIPE/2 TWBS	43.5 PSI	2006	145F	1	35F
30GPM/GALV PIPE/2 TWBS	42 PSI	185F	1	32F	
30GPM/SST PIPE/1 TWBS	39.5 PSI	3180	145F	2	50F
30GPM/GALV PIPE/1 TWBS	38 PSI	185F	2	39F	
		4006	145F	2	35F
		185F		2	32F



NOTES:

1. AREA CLASSIFICATION: ORDINARY
2. AVAILABLE AMBIENT TEMPERATURE RANGE: 32°F - 104°F
3. RATINGS: CONFIGURABLE WITH TYPE 44X JUNCTION BOX FOR INDOOR LOCATION
4. SEE TABLE 1 FOR ALLOWABLE PRESSURE DROP FROM SKID OUTLET TO SHOWERS. PRESSURE DROP INCLUDES ELEVATION CHANGES. PRESSURE DROP VALUES GIVEN FOR SUPPLY PRESSURE OF 20PSI. IF SUPPLY PRESSURE IS HIGHER, ADD THE DIFFERENCE BETWEEN SUPPLY PRESSURE AND 20PSI TO THE PRESSURE DROP GIVEN TO GET ADJUSTED ALLOWABLE PRESSURE DROP. ALLOWABLE PRESSURE DROP SHOULD NEVER EXCEED 60PSI WITH OUT FURTHER ANALYSIS AS THIS COULD LEAD TO OVER-PRESSURIZING SHOWERS.
5. RECOMMENDED RECIRCULATION FLOWRATE: 10GPM
6. PRESSURE TRANSMITTER SETPOINT IS TYPICAL SET TO 30PSI + ELEVATION CHANGE FROM SKID TO HIGHEST SHOWER (HFT = 433PSI)
7. A BACK PRESSURE REGULATOR IS REQUIRED FOR THE FOLLOWING CONDITION: SUPPLY PRESSURE < 30PSI + ELEVATION CHANGE FROM SKID TO HIGHEST SHOWER

OPTIONAL FEATURE THAT CAN BE CONFIGURED WHEN PURCHASED

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 HAWES EXPRESS WRITTEN CONSENT.

APPROVALS	DATE
DRAWN BY: 031820	03/10/2022
CHECKED BY: 010662	03/10/2022
DESIGN NUMBER	030662

HAWES 1485 KENTRIDGE LANE, SPARNS, WYOMING 83431

8780 - INDOOR EMERGENCY WATER TEMPERING SKID W/VFD PUMP

NOTE: IF ANY REVISIONS TO THIS DESIGN ARE MADE, THE REVISIONS MUST BE INDICATED BY A CIRCLED NUMBER ON THE DRAWING. THIS DRAWING IS THE PROPERTY OF HAWES CORPORATION AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF HAWES CORPORATION.

SCALE	DATE	BY
AS SHOWN	05/10/2022	SP

8780 PART NUMBER BREAKDOWN

PART NUMBER CONFIGURATION AND DRAWING REFERENCE GUIDELINE.

STEP 1:

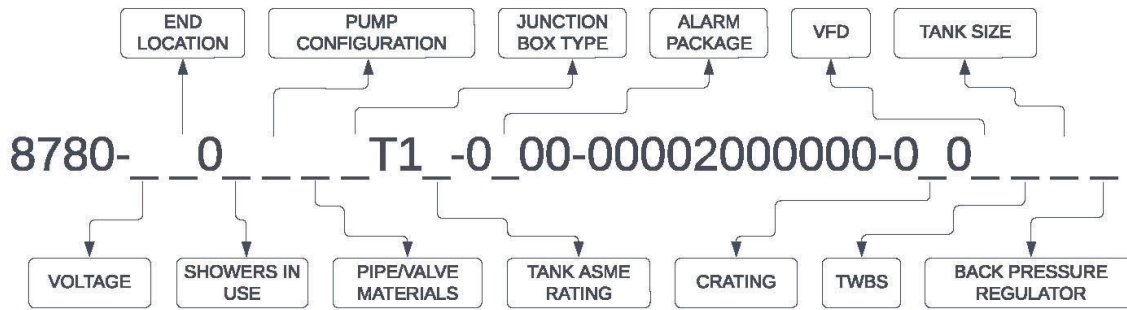
CONFIGURE PART NUMBER OR RETRIEVE PART NUMBER FROM EQUIPMENT. EXAMPLE PN: 8780-5U0D3B0T1T-0000-00002000000-0001141

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