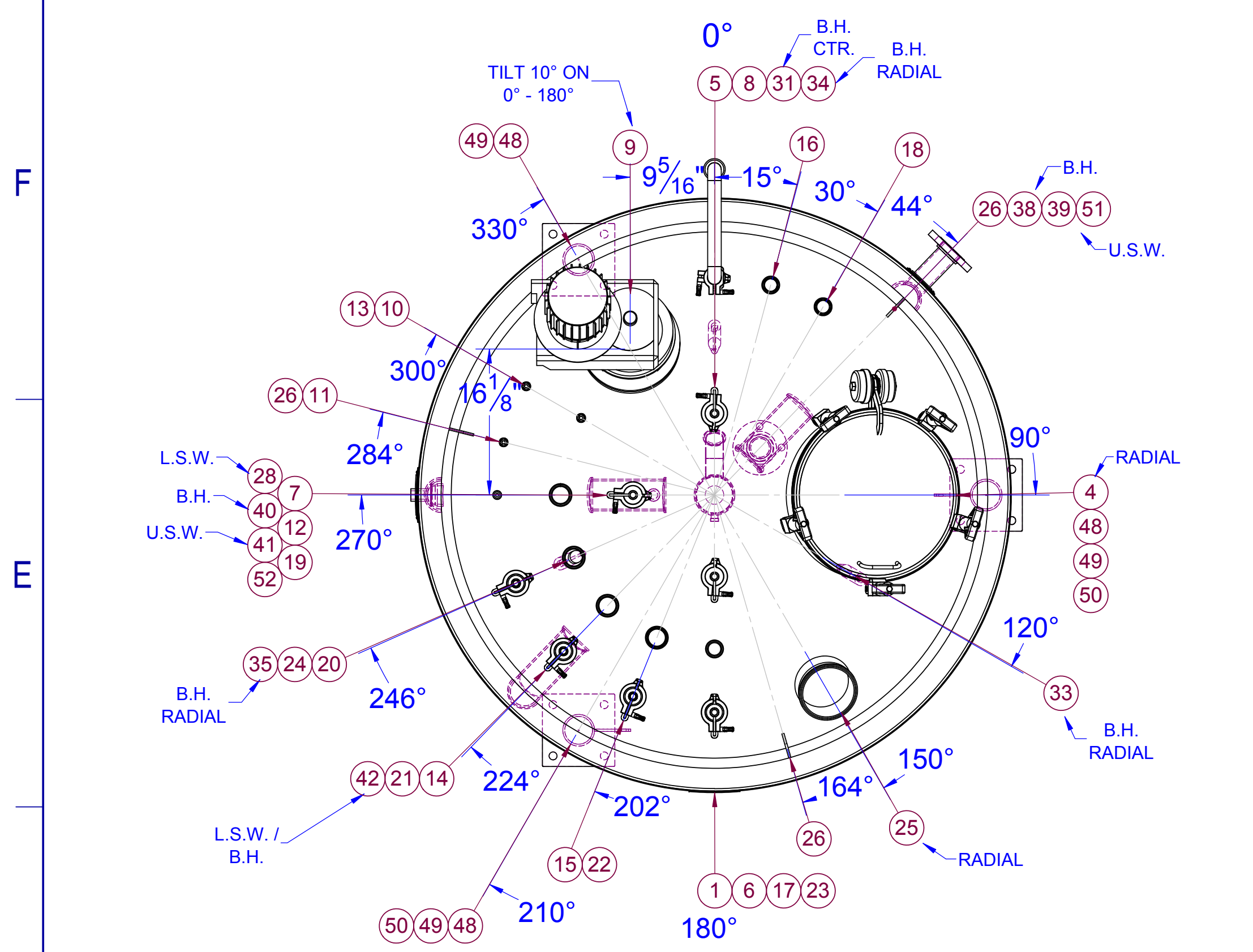
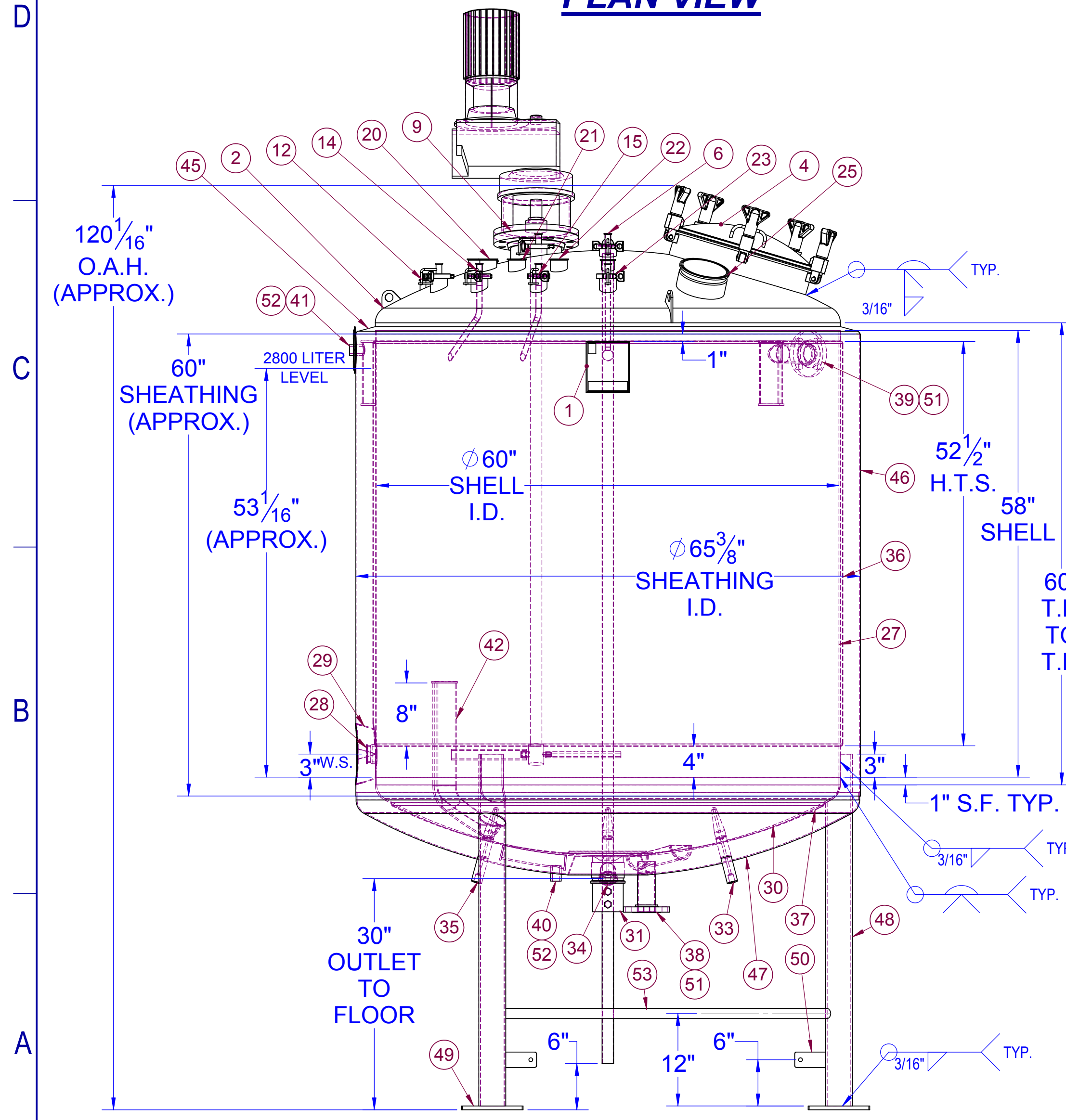


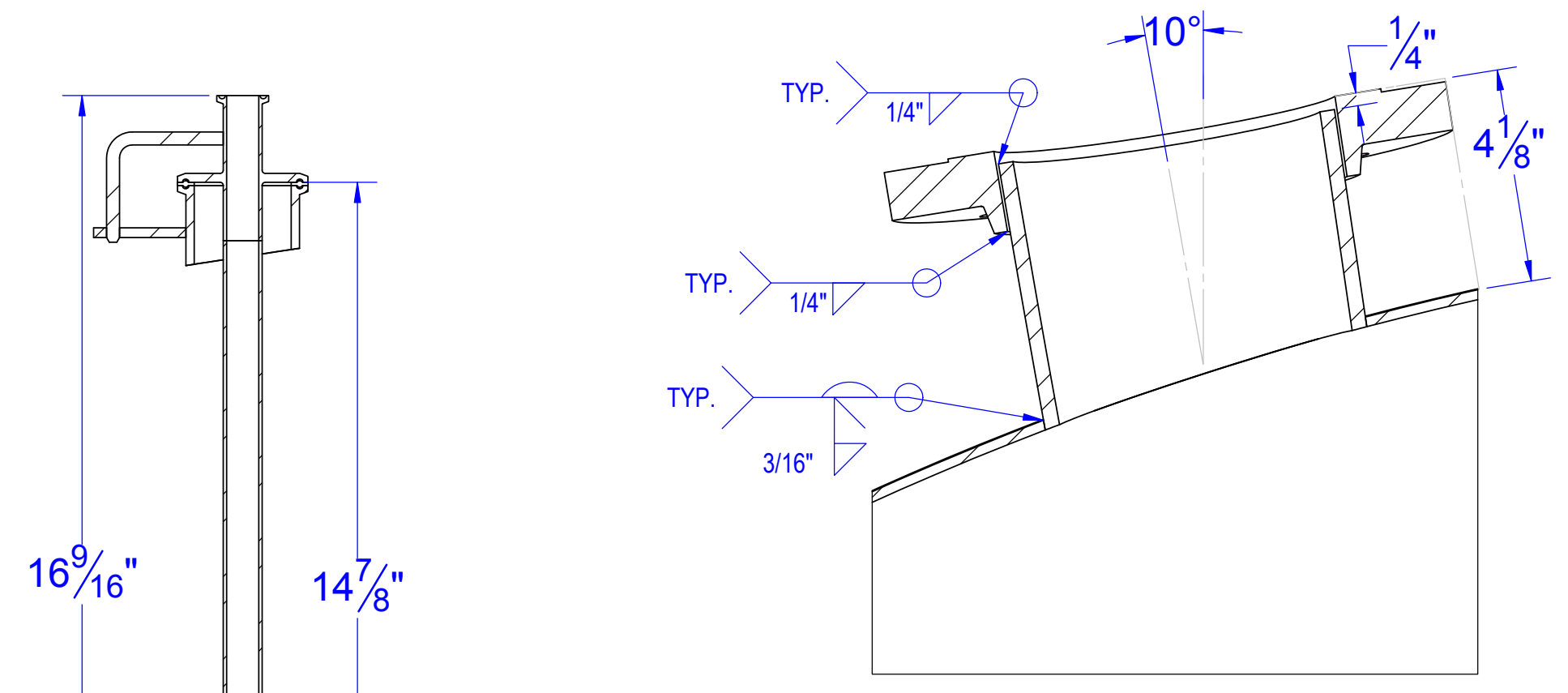
NOZZLE SCHEDULE				
ITEM	SIZE	SERVICE	RADIUS	LOCATION
4	18"	MANWAY	17"	T.H.
5	2" x 3/4"	SPRAYBALL	9"	T.H.
6	2" x 3/4"	SPRAYBALL	9"	T.H.
7	2" x 3/4"	SPRAYBALL	9"	T.H.
8	1-1/2"	RUPTURE DISC	24"	T.H.
9	6"	AGITATOR	SEE PRINT	T.H.
10	1/2"	GAS INLET	24"	T.H.
11	1/2"	GAS INLET	24"	T.H.
12	1/2"	GAS INLET	24"	T.H.
13	1/2"	GAS INLET	17"	T.H.
14	2" x 3/4"	NO-FOAM	24"	T.H.
15	2" x 3/4"	NO-FOAM	24"	T.H.
16	1-1/2"	SPARE	24"	T.H.
17	1-1/2"	SPARE	17"	T.H.
18	1-1/2"	SPARE	24"	T.H.
19	2"	SPARE	17"	T.H.
20	2"	SPARE	17"	T.H.
21	2"	SPARE	17"	T.H.
22	2"	SPARE	17"	T.H.
23	2" x 3/4"	NO-FOAM INLET	24"	T.H.
24	2" x 3/4"	NO-FOAM INLET	24"	T.H.
25	6"	SIGHT GLASS	24"	T.H.
28	2"	SPARE	N/A	L.S.W.
31	2"	OUTLET	CTR.	B.H.
33	1/2"	THERMOWELL	17"	B.H.
34	1/2"	THERMOWELL	17"	B.H.
35	1/2"	THERMOWELL	17"	B.H.
38	2"	H.T.S. INLET	N/A	B.H.
39	2"	H.T.S. OUTLET	N/A	U.S.W.
40	2"	H.T.S. DRAIN	N/A	B.H.
41	2"	H.T.S. VENT	N/A	U.S.W.



**PLAN VIEW**

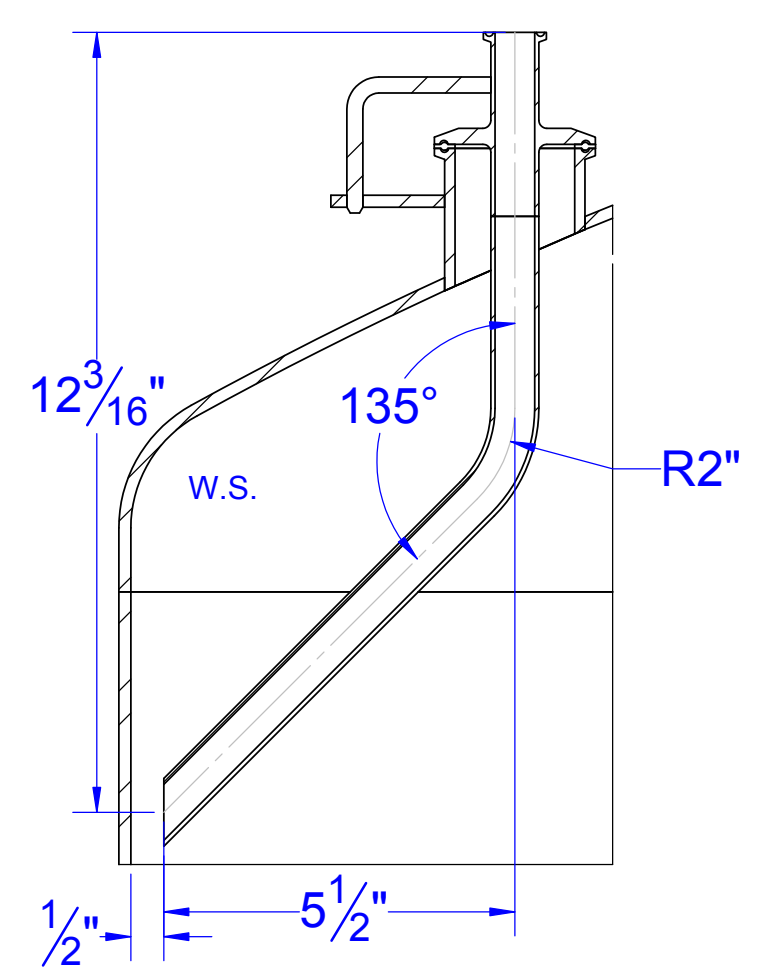


**ELEVATION VIEW**

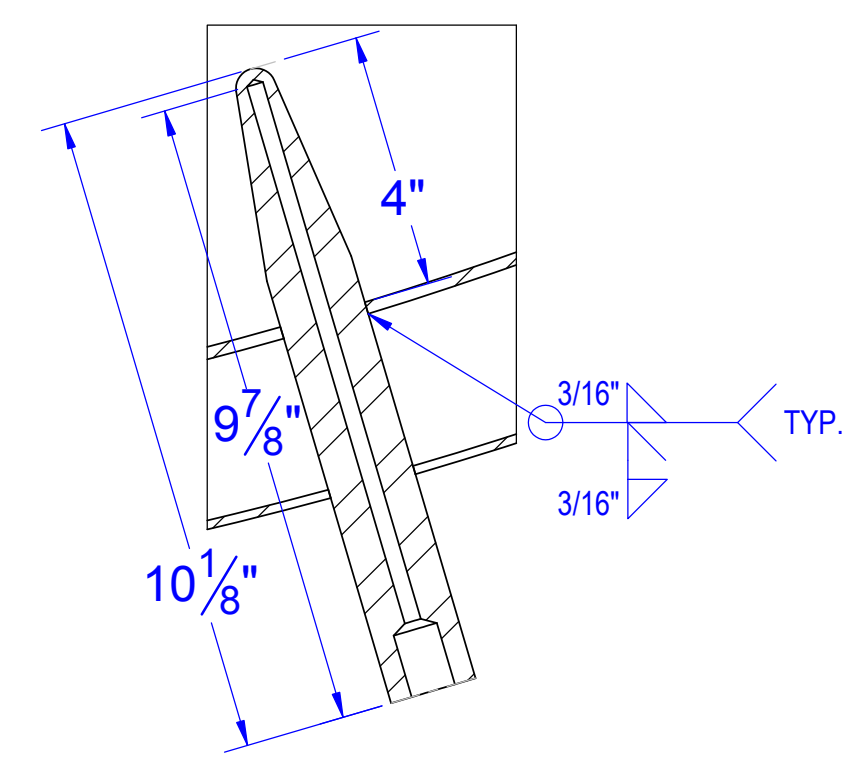


**DETAIL A SPRAYBALL**

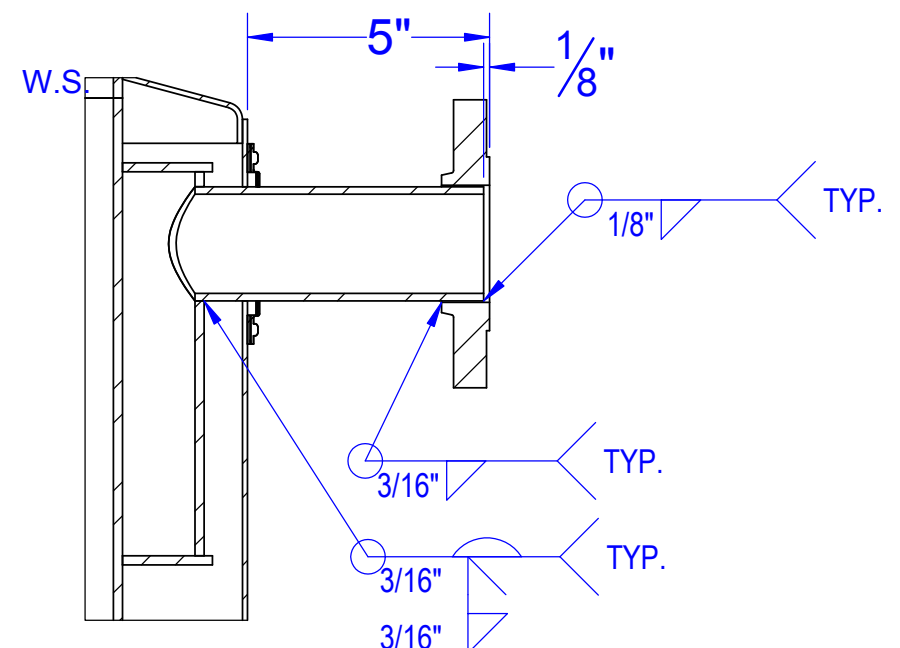
**DETAIL B AGITATOR MOUNT**



**DETAIL C NO-FOAM**

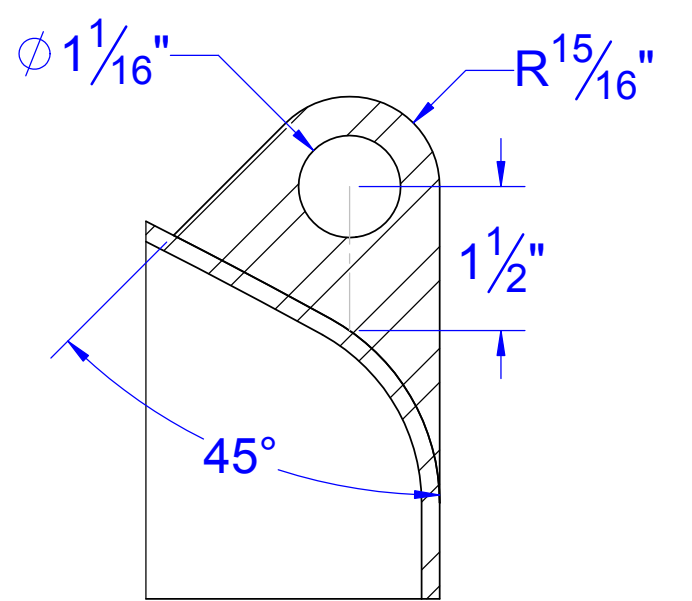


**DETAIL E THERMOWELL**

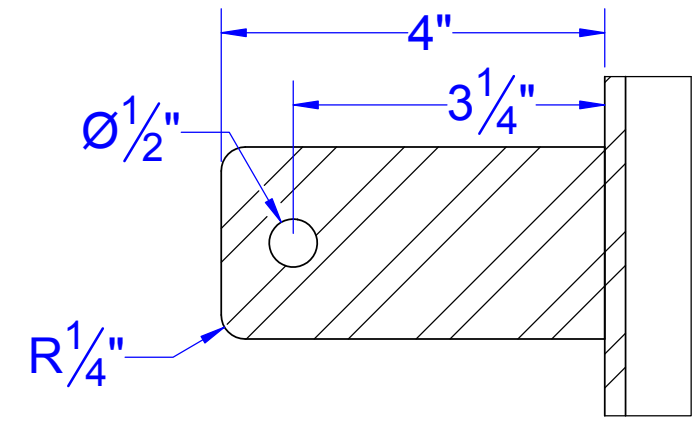


**TYPICAL FERRULE INSTALLATION**

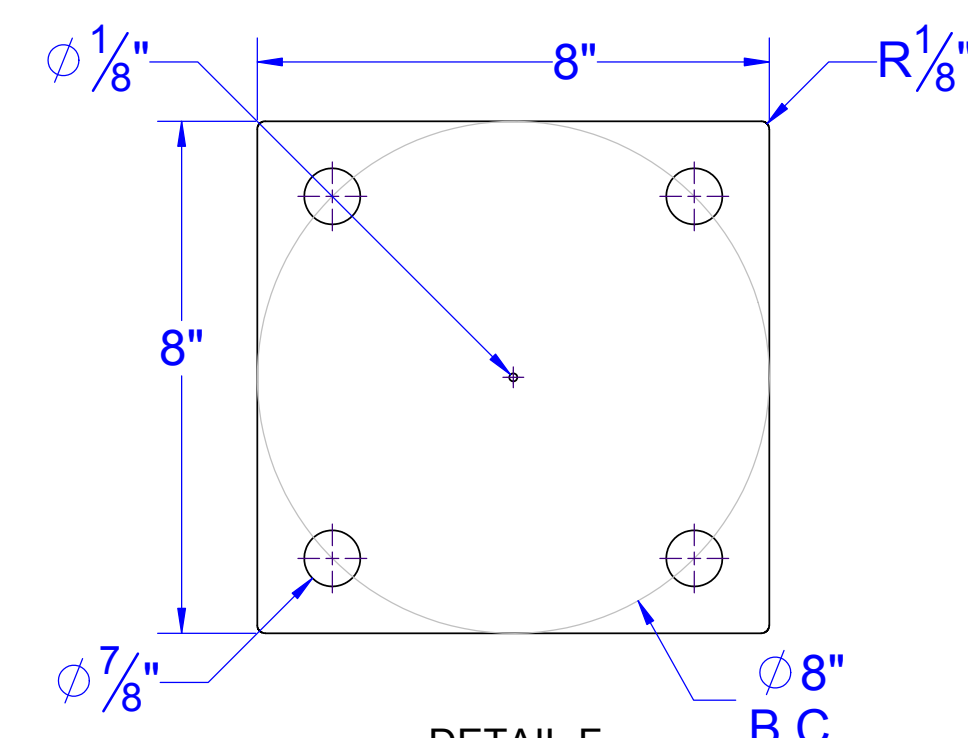
**TYPICAL R.F.S.O. FLANGE INSTALLATION**



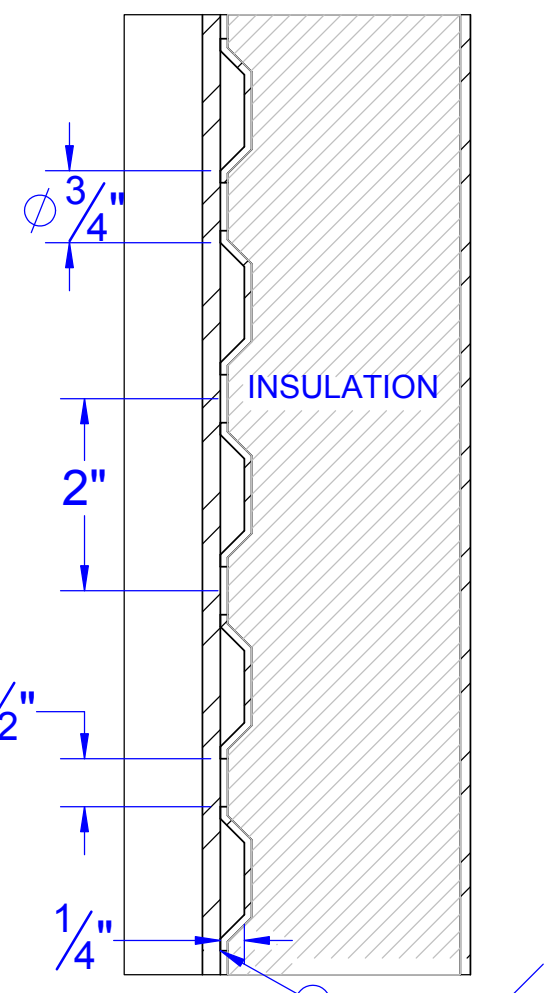
**DETAIL D LIFTING LUG**



**DETAIL G GROUNDING LUG**



**DETAIL F BASE PLATE**



**DETAIL H H.T.S.**

NOTES:  
 1. FLANGE BOLT HOLES TO STRADDLE MAJOR VERTICAL AND HORIZONTAL VESSEL CENTERLINES UNLESS OTHERWISE SPECIFIED.  
 2. THE CORROSION RESISTANCE OF THE EQUIPMENT IS NOT THE RESPONSIBILITY OF T&C STAINLESS WITHOUT WRITTEN ACCEPTANCE BASED ON A SPECIFIC SERVICE.  
 3. SUITABLE PRESSURE AND/OR VACUUM RELIEF VALVE(S) MUST BE INSTALLED BY CUSTOMER FOR VESSEL AND/OR HEAT TRANSFER SURFACE OPERATION.  
 4. PRODUCTION TO PROVIDE PROTECTION FOR ALL NOZZLES AND FITTINGS PRIOR TO SHIPMENT. VESSEL MUST BE ADEQUATELY VENTED.  
 5. WELD SEAMS IN VESSEL HEAD AND SHELL SHOULD BE LOCATED, WHERE POSSIBLE, TO AVOID ALL NOZZLE, ACCESS OPENINGS, AND REINFORCEMENT PADS.  
 6. ALL REINFORCEMENT PADS THAT COVER A WELD SEAM MUST BE PROVIDED WITH (1) ONE 1/8" DIA. WEEPHOLE LOCATED AT LOWEST POINT WHEN VESSEL IS IN ITS NORMAL OPERATING POSITION.  
 7. TOLERANCES PER T&C STAINLESS DRAWING #STC-0041, EXCEPT AS OTHERWISE NOTED.  
 8. VESSEL AND/OR H.T.S. DESIGNED, BUILT, & TESTED IN ACCORDANCE WITH ASME CODE SECTION VIII, DIV. 1, 2015 EDITION.  
 9. IMPACT TESTING NOT REQUIRED PER UHA-51.  
 10. VESSEL AND/OR H.T.S. TO BE HYDROSTATIC TESTED FOR (1) ONE HOUR. CHECK FOR DEFECTS, REPAIR AND RE-HYDRO TEST IF NECESSARY.  
 11. SEE DRAWING STC-0040 FOR WELDED JOINTS.  
 12. ALL CUSTOMER SUPPLIED PARTS MUST BE FURNISHED WITH PROPER IDENTIFICATION, INCLUDING PRESSURE AND TEMPERATURE RATING WHEN APPLICABLE.  
 13. ALL WELDING TO BE DONE BY ASME CERTIFIED WELDERS. WELD PROCEDURE SPECIFICATIONS (W.P.S.) T-1, T-2, T-2P, T-2PM, & T-8 ARE IN ACCORDANCE W/ ASME CODE SECTION VIII, DIV. 1, UW-28.  
 14. MFRS & CERTS RECD FOR CUSTOMER SUPPLIED PARTS.  
 15. ALL SPIN HOLES TO BE DYE PENETRATE CHECKED PER ASME CODE SECTION VIII, DIV. 1, UW-34.  
 16. HEAT TRANSFER TEST REPORT HTS-01-2.  
 17. VESSEL MUST DRAIN COMPLETELY (SHOP TO DETERMINE SWAGE REQUIREMENT, IF ANY ON BOTTOM HEAD TO ALLOW FULL DRAINAGE OF VESSEL).  
 18. RIBOFLAVIN TESTING AND DOCUMENTATION REQ'D.

CERTIFIED BY		SERIAL NO.		YEAR BUILT	
T&C STAINLESS		1984		2017	
MOUNT VERNON MO		TC8660		2017	
VESEL MAWP	10 PSIG AT 250 °F	VESEL MAEWP	0 PSIG AT 250 °F	MDMT	-20 °F AT 10 PSIG
TOP HEAD THK	7GA	SHELL THK	7GA	BTM HEAD THK	7GA
JACKET MAWP	100 PSIG AT 250 °F	JACKET MAEWP	15 PSIG AT 250 °F	MDMT	-20 °F AT 100 PSIG
BTM HEAD THK	14GA	SHELL THK	14GA	MATERIAL	304L
CUSTOMER P.O. 351198-K-Z-60451					
2800 LITER H.T.S. CODE ONLY					

SPECIFICATION	VESSEL	HEAT TRANSFER
INSP. & STAMP	NO	YES
ASME CODE SEC. VIII, DIV. 1	NO	YES
MIN./MAX. DESIGN TEMP °F	-20/250	-20/250
MAX. DESIGN PRESS. PSIG	10	100
CORROSION ALLOW. (INCH)	0	0
HYDROSTATIC TEST PSIG	13	130
HYDRO TEST POS. (VERT/HORIZ)	VERT.	VERT.
VACUUM DESIGN PSIG	0	15

FINISH REQUIREMENTS	
MATERIAL INTERIOR	MECHANICALLY POLISH TO 20RA.
MATERIAL EXTERIOR	MECHANICALLY POLISH TO 32RA.
WELD INTERIOR	GROUND SMOOTH & FLUSH TO 20RA.
WELD EXTERIOR	GROUND SMOOTH & FLUSH TO 32RA.

RADIOGRAPH REQUIREMENTS			
TOP HEAD:	NONE	TOP HEAD/SHELL SEAM:	NONE
BOTTOM HEAD:	NONE	BOT. HEAD/SHELL SEAM:	NONE
SHELL (CIRC.):	NONE	SHELL (LONG.):	NONE
OTHER (SPECIFY):	NONE		

**CERTIFIED DRAWING**

SIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CUSTOMER: THERMA  
 ADDRESS: SILA NANOTECHNOLOGIES  
 ORDER NO.: 351198-K-Z-60451  
 QUANTITY OF VESSELS: (1) ONE  
 SHIP TO NAME: THERMA  
 SHIP TO ADDRESS: SILA NANOTECHNOLOGIES  
 ESTIMATED VESSEL EMPTY WEIGHT IN LBS.: 2554.81  
 DRAWING SCALE: NONE - DO NOT SCALE  
 DRAWN BY: C. BOEBERT DATE: 3/29/2018  
 CHECKED BY: J. SCHNAKE DATE: 3/29/2018  
 APPROVED BY: M. OGLE DATE: 3/29/2018  
 TITLE:

**2800 LITER (Vw) - 3371.7 LITER (Vt)  
 NON-CODE w/ ASME H.T.S.**

CUSTOMER EQUIP./TAG NO., CUSTOMER TO SUPPLY

**T&C STAINLESS, INC.**

1016 PROGRESS STREET, MOUNT VERNON MO 65712  
 PHONE: (417) 466-4704, FAX: (417) 466-4705

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SERIAL NO.: TC-8660 DRAWING NO.: TC-8660  
 WORK ORDER NO.: 8660 SHEET: 1 OF 2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A		RELEASE FOR FABRICATION	11/14/2017	J. SCHNAKE
B		AS BUILT	3/12/2018	J. SCHNAKE
C		FINAL AS BUILT	3/28/2018	J. SCHNAKE



