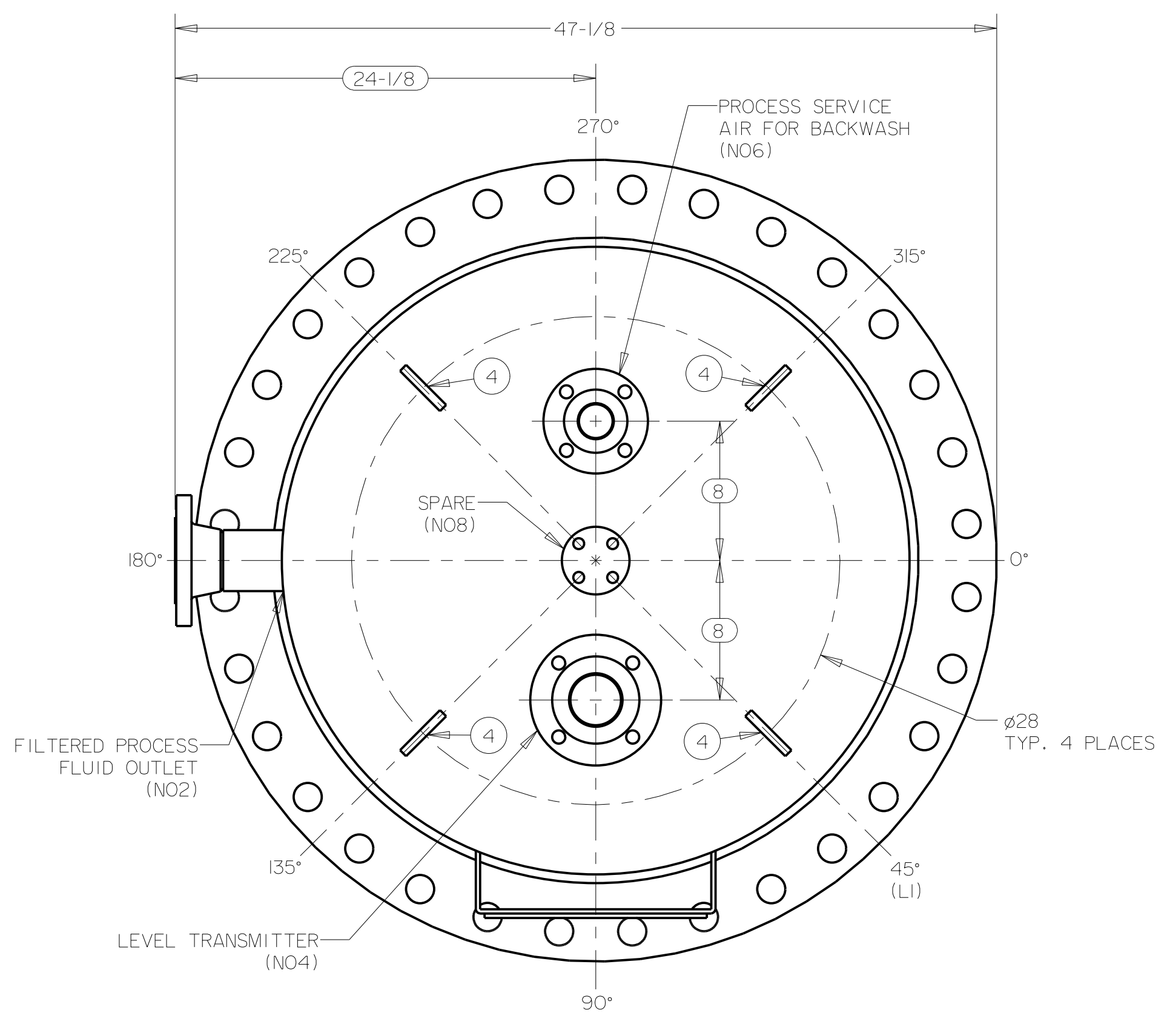


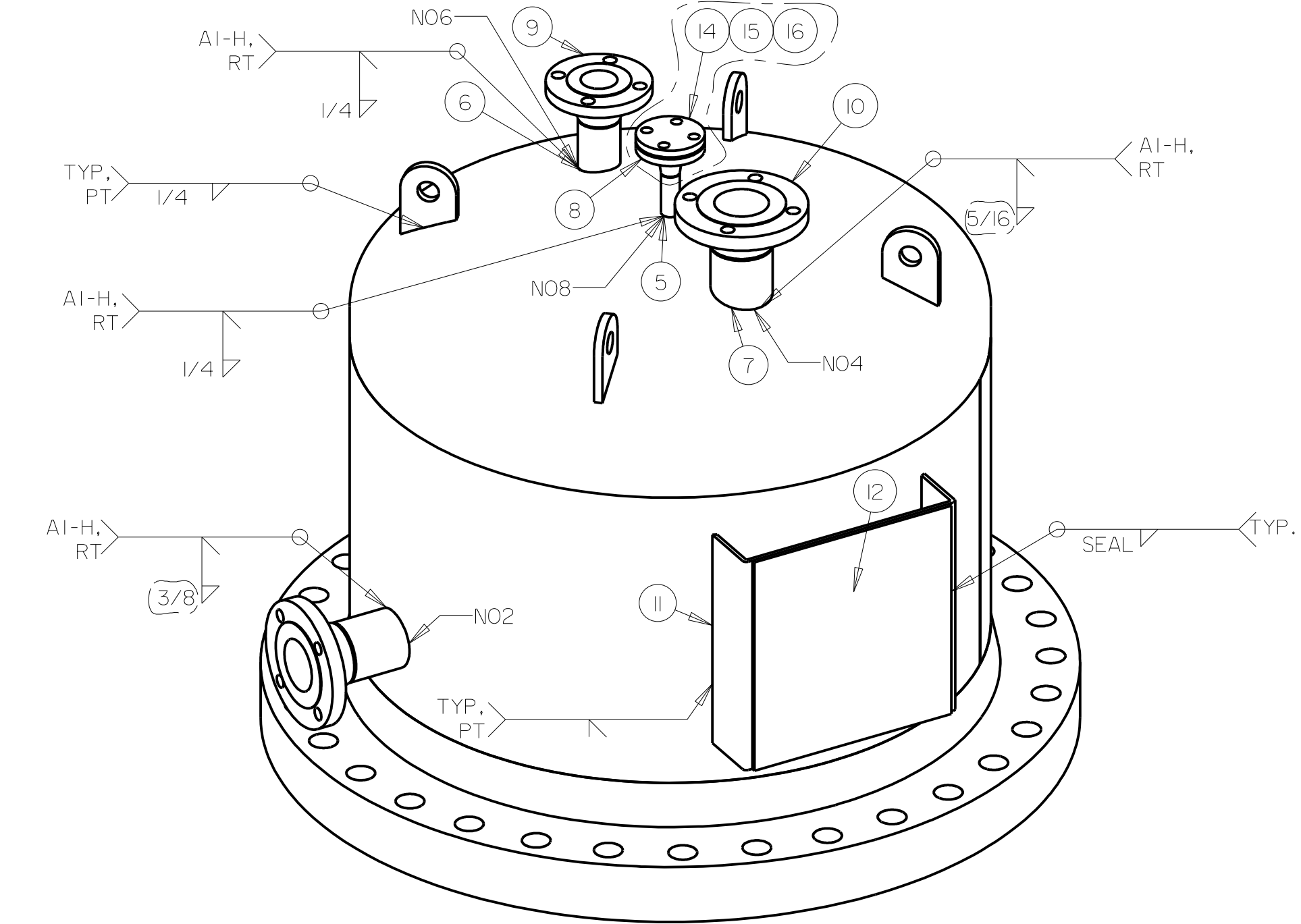
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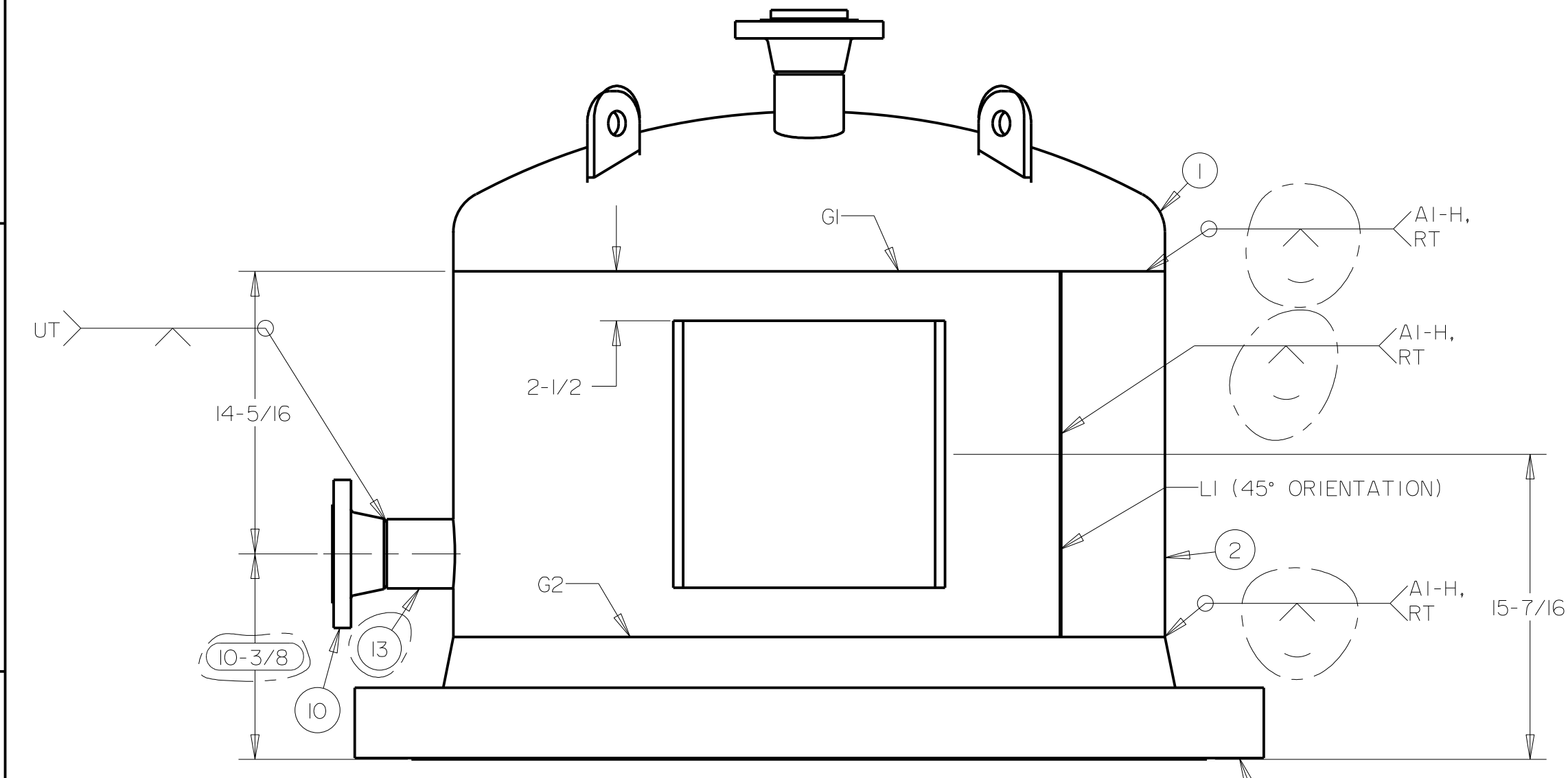
TOP VIEW

- NOTES:
- INDIVIDUAL CANDLE FILTER ASSEMBLY WEIGHT: 3.10 LBS
FILTER MOUNT PLATE ASSEMBLY WEIGHT: 1.727 LBS
EMPTY DESIGN WEIGHT: 5,018 LBS
OPERATING DESIGN WEIGHT: 18,030 LBS
 - HYDRO-TEST REPORT REQUIRED FOR 1.3 * MAWP.
HYDRO-TEST AT 289 PSIG (MAWP OF 222.23 PSI) FOR 60 MINUTES (1 HOUR).
 - LOAD TEST TO BE PERFORMED ON THE LIFTING LUGS AT THE RATED VESSEL EMPTY WEIGHT OF 5,018 LBS.
TEST PROOF FOR EACH LIFTING LUG SHALL BE 125% THE RATED VESSEL EMPTY WEIGHT. EACH LIFTING LUG SHALL BE LOAD TESTED AT 1,569 LBS.
 - THE NAMEPLATE SHALL INCLUDE THE FOLLOWING:
MANUFACTURER'S NAME: AVANTECH INC.
SHOP LOCATION: COLUMBIA, SC
DATE OF MANUFACTURE: 2018
SERIAL NUMBER: 1714-4000 A
EQUIPMENT NAME: EVAPORATOR FEED PRE-FILTER
(TAG NUMBER: DEF-FILT-00003)
WEIGHT OF ASSEMBLY: 5,018 LBS
PURCHASE ORDER NUMBER: 24590-CM-POA-MLFO-00005, REV. 0
(MAWP: 222.23 PSI)
DESIGN PRESSURE: 195 PSIG
HYDRO-TEST PRESSURE: 289 PSIG
 - DEBURR, BREAK ALL SHARP EDGES AND REMOVE WELD SPLATTER.
 - ALL PIPE WELDS SHALL BE FULL PENETRATION UNLESS OTHERWISE SPECIFIED.
 - ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH BUYER APPROVED AVANTECH WELD PROCEDURES AT-GTAW-65-AL6XN, AT-GTAW-66-AL6XN AND AT-FCAW-67-AL6XN
 - ALL NOZZLES THAT ARE FLUSH WITH THE INSIDE SURFACE OF THE VESSEL SHALL BE ROUNDED TO 1/8" MINIMUM RADIUS.
 - ATTACHMENT POINT OF SPIDERS, BRACES, OR OTHER TEMPORARY ATTACHMENTS SHALL BE UNS N08368 (AL-6XN S.S.) TEMPORARY STIFFENING AND JIGGING SHALL BE REMOVED BY GRINDING AND FINISHED SMOOTH TO THE VESSEL WALL BEFORE SHIPPING. PT AND VISUAL EXAMINATION ARE REQUIRED AFTER BRACING AND ATTACHMENTS ARE REMOVED.
 - ALL STAMPS FOR IDENTIFICATION REFERENCE MARKINGS SHALL BE OF THE LOW STRESS TYPE
 - ALL FULL PENETRATION WELDS ATTACHING INTERNAL OR EXTERNAL STRUCTURAL COMPONENTS TO THE HEADS OR SHELLS SHALL BE ULTRASONICALLY EXAMINED.
 - WELDS JOINING NOZZLES TO THE VESSEL SHELL OR HEAD SHALL BE 100% INSPECTED USING RADIOGRAPHY IF THERE IS COMPLETE JOINT PENETRATION AND ACCESS TO 2 SIDES OF THE NOZZLE.
 - EACH LAYER OF WELDING SHALL BE COMPLETED PRIOR TO STARTING THE NEXT LAYER (NO BLOCK WELDING). STITCH WELDING IS PROHIBITED.
 - ALL ATTACHMENTS AROUND OPENINGS AND OTHER MEMBERS SHALL FOLLOW THE CONTOUR AND SHAPE OF THE SURFACE TO WHICH THEY ARE ATTACHED. THE GAP AT ALL EXPOSED EDGES TO BE WELDED SHALL NOT EXCEED THE GREATER OF 1/16" OR ONE-TWENTIETH OF THE THICKNESS OF THE ATTACHMENT AT THE POINT OF ATTACHMENT.
 - ALL AL-6XN S.S. WELDS SHALL BE BACK PURGED WITH ARGON. THE PURGE SHALL BE MAINTAINED UNTIL 3 LAYERS OR 3/16" OF DEPOSIT HAS BEEN WELDED.
 - VERTICAL WELDING SHALL BE VERTICAL UP.
 - PRE & POST LOAD TEST PT REQUIRED ON LIFTING AND TAILING LUGS
 - NO DRY WASHING ALLOWED.
 - MACHINED EXPOSED METAL SURFACES SHALL HAVE A SURFACE FINISH OF 125 MICROINCHES PER ASME B46.1.
 - ALL FLANGES TO BE IN A TWO-HOLE ORIENTATION.
 - PRESSURE RELIEF VALVES ARE TO BE INSTALLED BY CUSTOMER IN CONNECTING PIPING. RELIEF VALVE SETPOINT TO BE LESS THAN OR EQUAL TO THE RATED VESSEL DESIGN PRESSURE AND TEMPERATURE.
DESIGN PRESSURE: 195 PSIG
DESIGN TEMPERATURE: 195 °F
 - AI-H INDICATES AN AUTHORIZED INSPECTOR HOLD POINT.
 - ALL PENETRANT TESTINGS IS TO BE CONDUCTED PER ASME SECTION V, ARTICLE 6, 2015.
 - ALL VISUAL TESTING IS TO BE CONDUCTED PER ASME SECTION V, ARTICLE 9, 2015.
 - PIPING ACCEPTANCE CRITERIA IS PER B31.3, PROCESS PIPING, 1996.
 - VESSEL ACCEPTANCE CRITERIA IS PER ASME SECTION VIII, 2015.
 - PT & RT PERSONNEL QUALIFICATIONS ARE PER SNT-TC-1A, 2006.
 - VT PERSONNEL QUALIFICATIONS ARE PER AWS QCI.
 - ALL DIMENSIONS TAKEN FROM WELD NECK FLANGES ARE TAKEN FROM THE RAISED FACE.

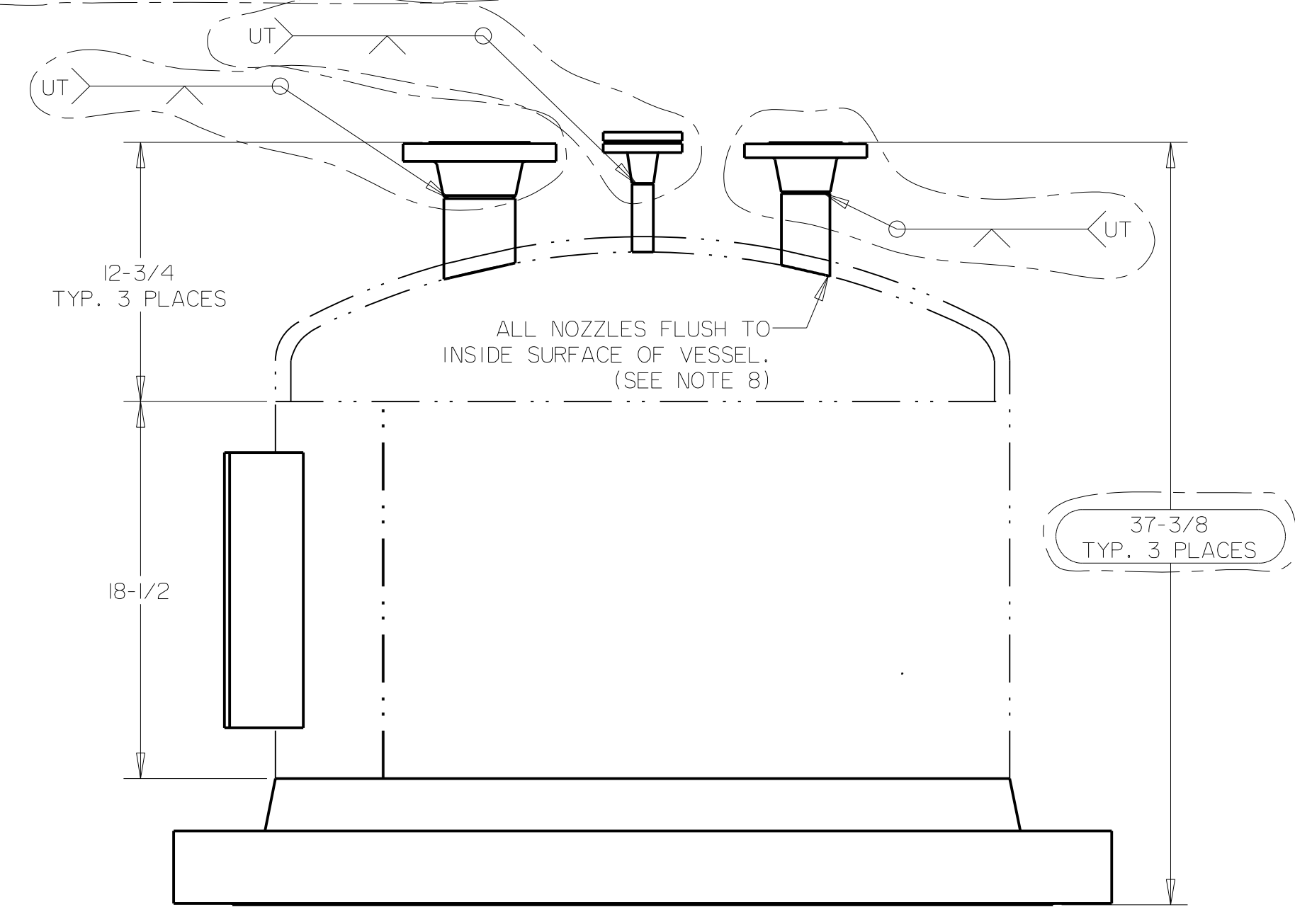
NOZZLE NO.	DESCRIPTION	CONNECTION TYPE	NOZZLE LOCATION	NOZZLE ORIENTATION	MATERIAL
NO1	PRESSURE TRANSMITTER (PT-8192)	1" WELD NECK FLANGE, R.F., CLASS 150	BOTTOM HALF	225 DEG	UNS N08367 (AL-6XN)
NO2	FILTERED PROCESS FLUID OUTLET	3" WELD NECK FLANGE, R.F., CLASS 150	TOP HALF	180 DEG	UNS N08367 (AL-6XN)
NO3	BACKWASH DRAIN OUTLET	3" WELD NECK FLANGE, R.F., CLASS 150	BOTTOM	0 DEG	UNS N08367 (AL-6XN)
NO4	LEVEL TRANSMITTER (LT-8191)	3" WELD NECK FLANGE, R.F., CLASS 150	TOP	90 DEG	UNS N08367 (AL-6XN)
NO5	3" UNFILTERED PROCESS FLUID INLET	3" WELD NECK FLANGE, R.F., CLASS 150	BOTTOM	120 DEG	UNS N08367 (AL-6XN)
NO6	PROCESS SERVICE AIR FOR BACKWASH	2" WELD NECK FLANGE, R.F., CLASS 150	TOP	270 DEG	UNS N08367 (AL-6XN)
NO8	SPARE	3/4" WELD NECK FLANGE, R.F., CLASS 150	TOP	0 DEG	UNS N08367 (AL-6XN)
NO9	2" UNFILTERED PROCESS FLUID INLET	2" WELD NECK FLANGE, R.F., CLASS 150	BOTTOM	240 DEG	UNS N08367 (AL-6XN)
NO10	1" UNFILTERED PROCESS FLUID INLET	1" WELD NECK FLANGE, R.F., CLASS 150	BOTTOM	0 DEG	UNS N08367 (AL-6XN)



ISOMETRIC VIEW



FRONT VIEW



RIGHT VIEW (LIFT LUGS HIDDEN FOR CLARITY) (VESSEL SHOWN TRANSPARENT)

ITEM	QTY	DESCRIPTION	SPEC AND/OR PART NO
16	4	1/2" DIA. HEAVY HEX BOLT W/ NUTS, 2-1/4" LG, 316 S.S.	ASTM A193 GR. B8M / ASTM A194 GR. 8M
15	1	3/4" FLANGE GASKET, COMPRESSED FIBER, 1/8" THK., CLASS 150, RING TYPE	C-5400
14	1	3/4" BLIND FLANGE, RAISED FACE, CLASS 150, AL-6XN S.S.	ASME B16.5
13	1/2 FT	3" PIPE, L.A.R., SCH. 160, AL-6XN S.S.	ASME SB691
12	1	ASME NAMEPLATE, AL-6XN S.S.	SEE DWG. 1714-8012
11	1	NAMEPLATE BRACKET, 2" X 13-1/2" X 1/4" THK., AL-6XN S.S.	ASTM B688
10	2	3" WELD NECK FLANGE, SCH. 80S, RAISED FACE, CLASS 150, AL-6XN S.S.	ASME SB462 / ASME B16.5
9	1	2" WELD NECK FLANGE, SCH. 80S, RAISED FACE, CLASS 150, AL-6XN S.S.	ASME SB462 / ASME B16.5
8	1	3/4" WELD NECK FLANGE, SCH. 160, RAISED FACE, CLASS 150, AL-6XN S.S.	ASME SB462 / ASME B16.5
7	1/2 FT	3" PIPE, L.A.R., SCH. 80S, AL-6XN S.S.	ASME SB691
6	1/2 FT	2" PIPE, L.A.R., SCH. 80S, AL-6XN S.S.	ASME SB691
5	1/2 FT	3/4" PIPE, L.A.R., SCH. 160, AL-6XN S.S.	ASME SB691
4	4	LIFTING LUG, AL-6XN S.S.	SEE DWG. 1714-8001
3	1	36" WELD NECK FLANGE, 1/2" THK., RAISED FACE, CLASS 150, AL-6XN S.S.	ASME SB462 / ASME B16.5
2	1	PLATE, ROLLED TO 36" OD., 1/2" THK., 18-1/2" LG., W/ 37.5 DEGREE SINGLE BEVEL TO THE OUTSIDE, NO LANDING, AL-6XN S.S.	ASME SB688
1	1	HRS PLATE, 3/4" NOM. THK., 5/8" MIN. THK., 36" OD, ASME FLANGED & DISHED HEAD W/ 2" STRAIGHT FLANGE, 37.5 DEGREE SINGLE BEVEL TO THE OUTSIDE, NO LANDING, AL-6XN S.S.	ASME SB688

TOLERANCE	1/XX	1/XX
LINEAR TOLERANCE	±1/8	±1/8
ANGULAR TOLERANCE	±30'	±30'
MATERIAL	AS SPEC'D	
SURFACE FINISH	N/A	
SURFACE TREAT	N/A	

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV.	DATE	DESCRIPTION	DRW BY	CHK BY	ENG	APP BY
2	11/08/17	INCORPORATED CUSTOMER COMMENTS	DO	CH	RD	-
1	10/02/17	INCORPORATED DESIGN CHANGES	DO	CH	RD	-
0	08/11/17	INITIAL RELEASE	DO	DL	RD	-

CUSTOMER/PROJECT
BECHTEL NATIONAL, INC.
HANFORD SITE
RICHLAND, WASHINGTON

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AVANTECH INCORPORATED

EVAPORATOR FEED PRE-FILTER VESSEL FABRICATION DRAWING

JOB NO. 1714
FILE ID. 1714-4000.DRW
DIMENSIONS IN INCHES(MM) UNLESS SPECIFIED

SCALE: NA
WT. N/A
SHEET 1 OF 3