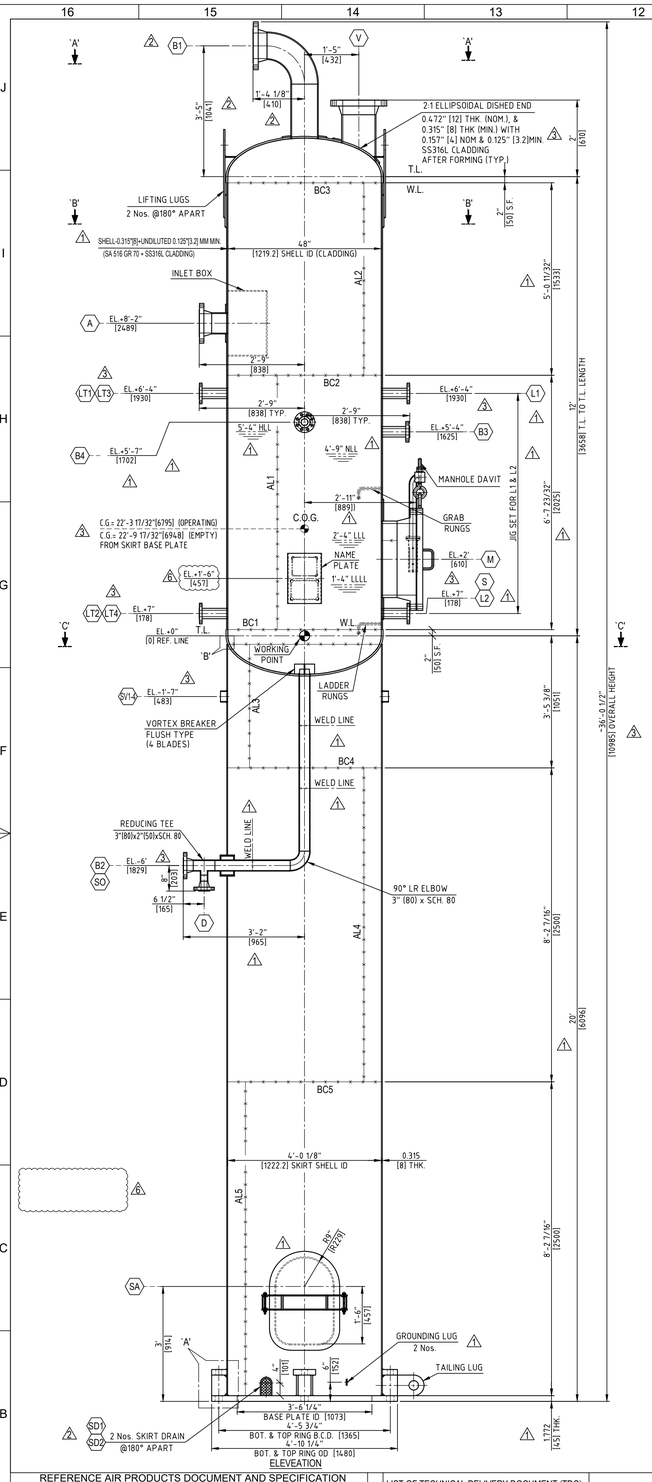
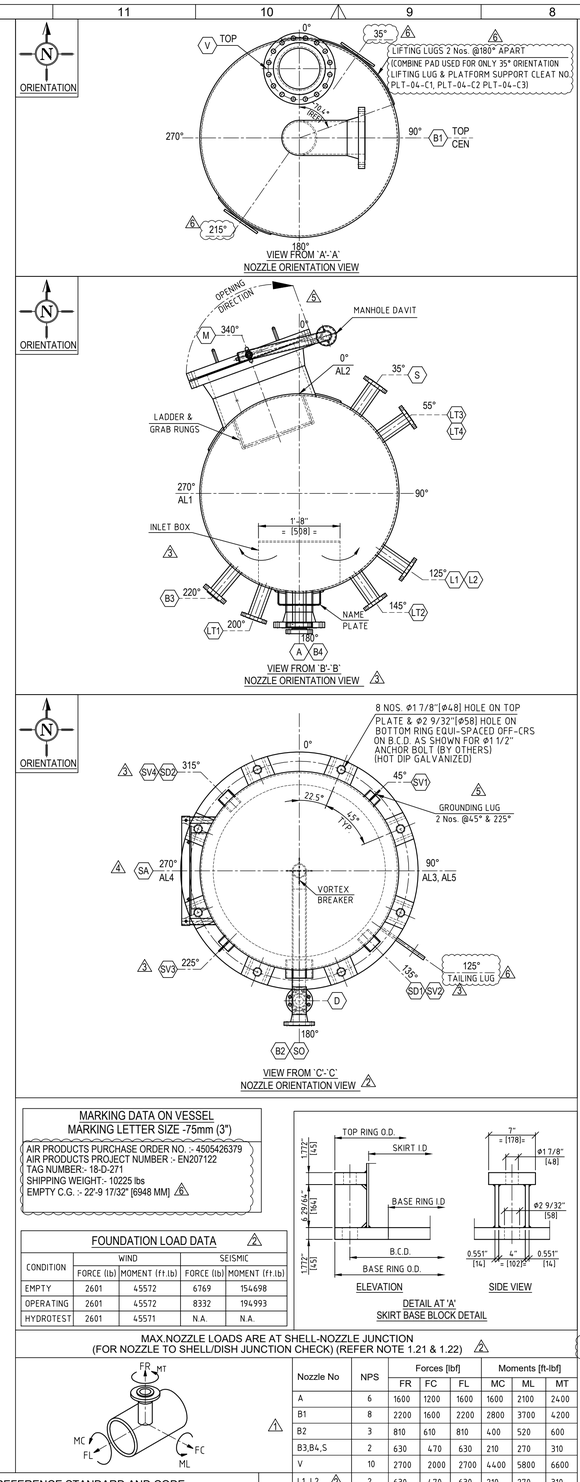
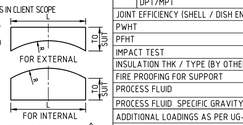




1. GENERAL NOTES :

1.1 ALL DIMENSIONS ARE IN INCHES / [MM], UNLESS OTHERWISE SPECIFIED.
1.2 THE BOLT HOLES OF THE NOZZLE AND GIRTH FLANGES SHALL ALWAYS STRADDLE THE PRINCIPAL CENTER LINE OF THE VESSEL OR THEIR PARALLEL LINES.
1.3 FOR NOZZLES LOCATED ON THE SHELL, PROJECTIONS ARE GIVEN FROM THE EQUIPMENT CENTER LINE TO FLANGE FACE AND FOR NOZZLES LOCATED ON HEADS, PROJECTIONS ARE SHOWN FROM HEAD TL TO FLANGE FACE, UNLESS OTHERWISE SHOWN
1.4. FLANGE DIMENSIONS FOR NOZZLES UPTO 24" SHALL BE AS PER ASME B16.5 FOR NOZZLES LARGER THAN 24", FLANGE DIMENSIONS SHALL BE AS PER ASME B16.47 SERIES A, UNLESS OTHERWISE SPECIFIED
1.5 GASKET SEATING SURFACE OF BODY FLANGE/NOZZLE FLANGE SHALL HAVE FINISH OF RA 125- 250 MICRO-INCH FOR SPIRAL GASKETS (REFER B16.5 PARA. 6.4.5.3)
1.6 NOZZLE NECKS UP TO NPS 12 SHOULD BE FROM SEAMLESS PIPE. NOZZLE GRATER THAN NPS 12 SHOULD BE FABRICATED FROM PLATE.
1.7 INSIDE CORNERS OF NOZZLE NECKS SHALL BE ROUNDED OFF TO A RADIUS OF 1/8" (3 MM) UNLESS OTHERWISE SHOWN. ALL OTHER SHARP CORNERS SHALL BE ROUNDED OFF TO A SUITABLE RADIUS.
1.8 UNLESS OTHERWISE SPECIFIED ALL NOZZLES SHALL BE FLUSH WITH THE INSIDE SURFACE.
1.9 STUDS BOLTS AND NUTS UP TO 1" DIAMETER SHALL BE THREADED AS PER UNC 2A/2B. ABOVE 1" FASTENERS SHALL BE 8 UN 2A/2B.
1.10 STUDS SHALL BE THREADED TO FULL LENGTH.
1.11 STUDS SHALL EXTEND A MINIMUM OF 8 MM BEYOND EACH NUT.
1.12 STUD BOLTS SHALL BE PROVIDED WITH TWO HEAVY SERIES HEXAGONAL NUTS.
1.13 UNCOATED BOLTS AND NUTS SHALL BE COATED WITH A SUITABLE THREAD LUBRICANT TO PREVENT CORROSION DURING TRANSPORTATION AND STORAGE. THE LUBRICANT SHALL BE EASILY REMOVABLE WITH MINERAL SPIRITS OR A SOLVENT.
1.14. NECESSARY CARE TO BE TAKEN DURING HANDLING,WELDING AND FABRICATION OF VESSEL TO AVOID SCRATCHES,PIN HOLES, BLOW HOLES, BENT MARK FROM INSIDE/OUTSIDE OF VESSEL.
1.15 PADS OF INTERNAL & EXTERNAL ATTACHMENT SHALL HAVE ROUNDED CORNERS OF MIN. RADIUS 1"[25] MM
1.16 PRESSURE RELIEF DEVICES ARE NOT IN PRAJ SCOPE OF SUPPLY. DESIGN FOR OVER PRESSURE PROTECTION AS PER UG-125 IS IN CLIENT SCOPE
1.17 MANWAY M OF NPS 24 (~554 mm ID) CAN BE USED AS INSPECTION OPENING AS PER UG-46(a)
1.18 NOZZLE D OF SIZE NPS 2 CAN BE USED AS DRAIN AS PER UG-25
1.19 TOLERANCES SHALL BE IN ACCORDANCE WITH ASME SEC VIII DIV.1 AND AS PER FIG 2 OF SPECIFICATION ABKM-PP-000-50801-A_0
1.20 THE OUT OF ROUNDNESS FOR SHELL SHALL MEASURED WITH THE FOLLOWING TEMPLATE

ITEM	'R' inch [mm]	'L' inch [mm]	DEVIATION inch [mm]
DISHED ENDS	TO SUIT 2:1 ELLIPSOIDAL PROFILE	21.81" [554]	±0.22 [5.6]
MAIN SHELL	24" [610]	29.33" [845]	±0.263 [6.3]
NOZZLE M	10.9" [277]	8.4" [213]	±0.142 [3.6]



1.21 FLANGE RATING WERE REVISED TO #300 TO MEET UG-44(b) REQUIREMENTS . PIPING LOADS FOR THESE NOZZLES SHALL BE AS PER #150 ONLY
1.22 FLANGE RATING WERE REVISED TO #600 TO MEET UG-44(b) REQUIREMENTS . PIPING LOADS FOR THESE NOZZLES SHALL BE AS PER #300 ONLY

2. MATERIAL:

2.1 ALL PRESSURE BEARING COMPONENTS SHALL CONFORM TO ASME SECTION II PART A (ED.2019) AND SUPPLIED WITH TEST CERTIFICATE ACCORDING TO EN 10204-3.1/3.2. AS PER SPEC-ENG-M0042 OTHER MATERIAL AND PRESSURE PARTS SHALL HAVE DNV2.7N TYPE 3.1 CERTIFICATION EXCEPT SPECIFIC APPROVAL FROM CLIENT
2.2 ALL CARBON STEEL PLATE AND FORGING MATERIAL SHOULD BE IN NORMALIZED CONDITION
2.3 PLATE HAVING THICKNESS 12MM AND ABOVE SHALL BE ULTRASONICALLY EXAMINED IN ACCORDANCE WITH SA-578.
2.4. ALL FORGINGS SHALL BE EXAMINED ULTRASONICALLY IN ACCORDANCE WITH SA-388
2.5 PLATES, PIPES & FITTINGS ARE EXEMPTED FROM IMPACT AS PER UG-20 (f). FLANGES ARE EXEMPTED FROM IMPACT TESTED AS PER UCS-66 (c), FITTINGS ARE EXEMPTED FROM IMPACT TEST AS PER UCS-66 (a). FASTENERS ARE EXEMPTED FROM IMPACT TEST AS PER NOTE (c) OF FIG.-UCS-66
2.6 SHELL AND HEAD CLADDING MATERIAL SHALL BE 1/8"[3.2mm] MIN. THK. INTEGRALLY BONDED CLAD PER SA-264. (SA-516-70 + SA-240-316L). INTEGRALLY CLAD PLATE SHALL BE EXAMINED IN ACCORDANCE WITH SA-578 LEVEL C.

3. WELDING:

3.1 ALL WELDING SHALL BE CARRIED OUT AS PER APPROVED WELD PROCEDURE.
3.2 ALL SHELL AND HEAD JOINTS SHALL BE FULL PENETRATION WELDS WITH BACK CHIPPING TO SOUND METAL AND RE WELDED FROM OTHER SIDE. FOR THOSE JOINTS WHICH ARE INACCESSIBLE FOR BACK CHIPPING, THE ROOT RUN SHALL BE CARRED OUT BY GTAW WELD.
3.3 ALL NOZZLE TO SHELL WELDS SHALL BE 100% PENETRATION GROOVE WELDS.
3.4 WELDING OF VESSEL INTERNALS ATTACHED TO A PRESSURE BOUNDARY COMPONENT SHALL BE CONTINUOUS ON ALL SURFACES TO ELIMINATE CORROSION POCKETS.
3.5 THE SKIRT ATTACHMENT WELD SHALL HAVE COMPLETE FUSION FOR THE ENTIRE LENGTH OF THE WELD AND SHALL BE FREE FROM UNDERCUT, OVERLAP, OR ABRUPT RIDGES OR VALLEYS.
3.6 ALL TACK WELDS SHALL BE DONE BY QUALIFIED WELDER ONLY.
3.7 TEMPORARY ATTACHMENTS SHALL BE REMOVED FLUSH WITH THE VESSEL SHELL AND NONDESTRUCTIVELY EXAMINED (I.E., MAGNETIC PARTICLE EXAMINATION (MT) OR DYE PENETRANT.
3.8 ALL TEMPORARY ATTACHMENTS SHALL BE REMOVED BEFORE HYDROSTATIC TESTING.
3.9 ALL SURFACES DAMAGED DURING FABRICATION SHALL BE TREATED FOR RESTORING THICKNESS AS PER UW-42.
3.10 ALL WELDS, BOTH PRESSURE CONTAINING AND WELDS TO PRESSURE PARTS, SHALL HAVE A SMOOTH CONTOUR. SMOOTH MEANS THAT THE CONTOUR OF WELD MUST MERGE SMOOTHLY INTO THE BASE METAL WITH NO SHARP CHANGE IN METAL SURFACE. THERE SHALL BE NO SHARP RIDGES OR HOLLOWS.
3.11 ALL L-SEAM /C-SEAM WELDING SHALL BE PREFERABLY BE CARRED OUT USING SAW ONLY. SMAW/GTAW CAN BE EMPLOYED ONLY IF SAW IS NOT FEASIBLE. ANYWAY SMAW/ GTAW WELDING OR REPAIR SHALL BE CARRED OUT USING WEAVING TECHNIQUE WITH SMOOTH FINISH AND WITHOUT ANY DISCONTINUITIES PEAK AND VALLEYS.
3.12 ALL WELDS SHALL BE SUFFICIENTLY CLEANED AND FREE OF SCALE OR PAINT BEFORE PRESSURE TESTING TO PERMIT PROPER EXAMINATION FOR DEFECTS.
3.13 PLATE LAYOUTS SHALL BE ARRANGED SO THAT LONGITUDINAL AND CIRCUMFERENTIAL WELD SEAMS CLEAR ALL NOZZLES, MANWAYS, AND THEIR REINFORCING PADS BY 2 INCHES (150 MM) MINIMUM, MEASURED FROM WELD EDGE TO WELD EDGE. WHEN INTERFERENCES ARE UNAVOIDABLE ON A SEAM JOINT, GROUND FLUSH WELD JOINT AND CARRY OUT FULL RADIOGRAPHIC EXAMINATION OF THE WELD JOINTS FOR A MINIMUM LENGTH OF TWICE THE OVERLAPPED LENGTH.
3.14 RADIOGRAPHIC EXAMINATION OF WELD SEAMS IS NOT REQUIRED IF SINGLE PLATE EDGE-TYPE ATTACHMENTS (E.G., TRAY SUPPORT RINGS, DOWNCOMER BOLTING BARS, STIFFENING RINGS, INSULATION SUPPORT RINGS, LADDER, PLATFORM, OR PIPE SUPPORT CLIPS) CROSS WELD SEAMS.
3.15 LONGITUDINAL SEAM OFFSET SHALL BE THE GREATER OF FIVE TIMES THE PLATE THICKNESS OR 150 MM (6 IN).

4. RADIOGRAPHIC EXAMINATION :

4.1 NOE OF WELDS SHALL BE PERFORMED AS PER APPROVED QUALITY PLAN.
4.2 FOR PRESSURE PARTS BASE MATERIAL :-
a) ALL LONG SEAMS AND CIR. SEAMS IN THE SHELL SHALL BE SPOT RADIOGRAPHED AS PER UW -11 (b).
b) DELETED
c) DISHED END TO SHELL JOINT SHOULD BE ADDITIONALLY SPOT RADIOGRAPHED TO MEET REQUIREMENTS OF UW-11(a)(5)(b).
d) ALL NOZZLE PIPE TO FLANGE JOINTS THAT EXCEEDS NPS 10 OR 1-1/8" (29) WALL THICKNESS SHALL BE SPOT RADIOGRAPHED
e) LONG SEAMS OF PLATE FABRICATED NOZZLES SHALL BE FULLY RADIOGRAPHED.
4.3 AUTOMATED ULTRASONIC TESTING CAN BE PERFORM IN LIEU OF RT AS PER UW-51.

5. PENETRANT TEST / MPT PT/MPT SHALL BE AS PER APPROVED QAP :. THE FOLLOWING SHALL BE EXAMINED BY THE PT/MPT METHOD.
5.1 ROOT RUN , BACK CHIP AND FINAL RUN OF WELDS (WHERE BACK CHIP IS APPLICABLE , PT/MPT AFTER ROOT RUN IS NOT NECESSARY ; HOWEVER PT/MPT WILL BE PERFORMED AFTER BACK CHIPPING)
5.2 OUTSIDE AND INSIDE SURFACES OF DISHED END STRAIGHT FACE & KNUCKLE ZONE AFTER COLD FORMING.
5.3 ALL NOZZLE TO SHELL WELDS SHALL BE DP OR MP CHECKED AT ROOT RUN AND FINAL WELD.
5.4 ALL WELDING EDGES SHALL BE CHECKED BY MP EXAMINATION FOR DETECTION OF CRACKS, LAMINATIONS OR SEGREGATIONS.
5.5 WELDS ATTACHING VERTICAL VESSEL SUPPORTS (E.G. SKIRTS, LUGS, LEGS, ETC.)
5.6 WELDS ATTACHING VESSEL LIFTING (I.E., ERECTION) LUGS
5.7 WELDS ATTACHING MANWAY DAVITS
5.8 LOAD BEARING APPURTENANCES

6. AIR TEST:

6.1 REINFORCING PAD ATTACHMENT WELDS AND ACCESSIBLE SURFACES OF INSIDE NOZZLE TO VESSEL WALL WELDS SHALL BE TESTED FOR THE ABSENCE OF LEAKS WITH A GAUGE PRESSURE OF 15 PSIG (100 KPA) DRY AIR OR NITROGEN AND BUBBLE FORMING SOLUTION. THIS TEST SHALL BE PERFORMED BEFORE THE FINAL HYDROSTATIC TEST
6.2 HOLES IN REINFORCING PADS SHALL BE PLUGGED WITH ROOM TEMPERATURE VULCANIZING (RTV) SILICONE SEALER OR RUST PREVENTATIVE GREASE THAT IS COMPATIBLE WITH THE BASE MATERIAL.

7. TESTING :

7.1 HYDRO TEST WILL BE CARRIED OUT IN HORIZONTAL POSITION AT SHOP.
7.2 HYDROTEST SHOULD BE CARRIED OUT AS PER UG-99(C).
7.3 MINIMUM METAL TEMPERATURE DURING HYDROTEST SHALL BE AT LEAST 30 DEG F (17 DEG C) ABOVE THE MINIMUM DESIGN METAL TEMPERATURE OF THE VESSEL.
7.4. ALL BOLTING AND WASHERS, USED FOR TESTING, SHALL BE PROPERLY LUBRICATED FOR ASSEMBLY BEFORE THE INITIAL PRESSURE TEST.
7.5 BEFORE APPLICATION OF THE TEST PRESSURE, THE TEST WATER AND THE VESSEL MATERIAL SHALL BE PERMITTED TO EQUALIZE TO APPROXIMATELY THE SAME TEMPERATURE
7.6 FOR CS + SS CLADDED EQUIPMENTS , WATER USED FOR THE HYDROTESTING WOULD BE POTABLE QUALITY LESS THAN 50 PPM. THE TEST PRESSURE SHALL BE HELD FOR A MINIMUM PERIOD OF ONE HOUR.
7.7 AFTER COMPLETION OF THE HYDROSTATIC TEST, THE VESSEL SHALL BE DRAINED, DRIED INCLUDING DRYING INTERNALS, AND CLOSED AS QUICKLY AS PRACTICABLE.
7.8 AFTER COMPLETION OF ALL TESTING AND INSPECTION, THE TEST WATER SHALL BE COMPLETELY REMOVED BY DRAINING AND MOPPING, OR ALL WETTED SURFACES SHALL BE FLUSHED WITH COLD CONDENSATE OR DEMINERALIZED WATER.
7.9 TEMPORARY CS PLATE BLIND FLANGES SHALL BE USED FOR NOZZLES FLANGES DURING HYDROTEST WITH ORIGINAL SIZE BOLTS,NUTS & WASHER.
7.10 TEST GASKETS SHALL BE OF THE SAME TYPE AND MATERIAL AS THE SERVICE GASKETS.
7.11 IN ANY CASE HYDROTEST PRESSURE SHOULD NOT EXCEED 360 PSI (g) (25.31 KG/CM2(g))
7.12 WELDING, BURNING OR GRINDING, INCLUDING COSMETIC GRINDING OF PRESSURE RETAINING WELDS, SHALL NOT BE PERFORMED ON VESSELS THAT HAVE BEEN PRESSURE TESTED UNLESS APPROVED BY PURCHASER. THIS INCLUDES BUT SHALL NOT BE LIMITED TO WELDS FOR SHIPPING ATTACHMENTS, REFRACTORY OR INSULATION CLIPS, STIFFENERS, SPIDERS, OR GRINDING FOR SURFACE PREPARATION.
7.13 THE INTERIOR OF THE VESSEL SHALL BE CLEANED IN ACCORDANCE WITH SECTION 4.6.1.2 OF ABKM-PP-000-50801-A

8. SURFACE PREPARATION & PAINTING:

8.1 SURFACE SHALL BE CLEAN & FREE FROM RUST,OIL,DIRT,SCALE,OXIDES AND OTHER FOREIGN MATERIAL DETRIMENTAL TO WELDING.
8.2 NO SURFACE SHALL BE PAINTED BEFORE COMPLETION OF THE INSPECTION NOE AND HYDROTEST.
8.3 ALL TEMPORARY SHIPPING COMPONENTS, INCLUDING BOLTING, COVERS, CLIPS, SUPPORTS, BRACES, ETC., SHALL BE PAINTED BRIGHT ORANGE OR BRIGHT YELLOW TO FACILITATE IDENTIFICATION FOR REMOVAL IN THE FIELD.
8.4 PAINTING SHALL BE CARRIED OUT AS PER APPROVED PAINT PROCEDURE (EN207122-PRAJ-9V3-00007) & BELOW TABLE

TAG NO	EXTERNAL SURFACE	SURFACE PREPARATION	PAINT SYSTEM	PRIMER COAT (DFT)	INTERMEDITE Coat (DFT)	FINISH COAT (DFT)	FINAL SHADE	FINAL DFT
18-D-271	C.S (VESSEL & SKIRTS)	SSPC SP-10	1	INTERZINC 22 (2.5-4 MILS) (65-100µm)	INTERGARD 475 (4-6 MILS) (100-150µm)	INTERTHANE 990 (2-3 MILS) (50-75µm)	LIGHT GREY (RAL 7035)	215- 325 µm (8.5-13 mils)

9. IDENTIFICATION & MARKING :

9.1 THE TANGENT LINE SHALL BE PUNCH-MARKED INSIDE AND OUTSIDE OF THE VESSEL AT 0, 90, 180, AND 270 ANGLE POSITION POINTS.
9.2 ALL VESSELS USING A POSITIVE PRESSURE INERT INTERNAL ATMOSPHERE SHALL HAVE THE FOLLOWING NOTICE PAINTED ON TWO SIDES OF THE SHELL AND INSULATION COVERING, IF PRESENT, IN THREE-INCH (75MM) HIGH LETTERS VISIBLE IN THE SHIPPING POSITION FROM GRADE. "CAUTION – UNDER INERT ATMOSPHERE – DO NOT OPEN WITHOUT PROPER PRECAUTIONS"
9.3 ALL VESSELS SHALL HAVE THEIR CENTERS OF GRAVITY (EMPTY CONDITION AS PER GA DRAWING) MARKED. THE LETTERS CG AND SHIPPING WEIGHT IN lbs. SHALL BE PAINTED AT 2 LOCATIONS DIAMETRICALLY OPPOSITE, AND ADJACENT TO THE C.G. MARK.
9.4 VERTICAL VESSELS ARE TO BE MARKED ON THE BASE AND FIRST ONE FOOT OF SKIRT, INDICATING THE NORTH, SOUTH, EAST, AND WEST COORDINATES. THE COORDINATES SHALL BE INDICATED WITH A PAINTED LINE AND LETTER FOR EACH, ACCORDING TO THE ORIENTATION SHOWN ON THE BUYER VESSEL DRAWINGS. THE MARKINGS SHALL BE MADE ON THE SHELL NEAR THE BOTTOM TANGENT LINE IF THE VESSEL DOES NOT HAVE A SKIRT

10. SHIPPING:

10.1 PREPARATION FOR SHIPPING SHALL BE IN ACCORDANCE WITH AP SPECIFICATIONS 4W(6N – 10001.
10.2 ALL VESSEL OPENINGS SHALL BE CLOSED AND SEALED IMMEDIATELY AFTER COMPLETION OF CLEANING AND DRYING.
10.3 VESSELS WITH STAINLESS STEEL INTERNAL CLADDING SHALL BE NITROGEN PURGED, FILLED AND HAVE BLIND FLANGES, SERVICE GASKETS, AND FULL BOLTING ON ALL NOZZLES. SPARE DRY NITROGEN BOTTLE SHOULD BE PROVIDED FOR OVERSEA TRANSPORTATION.
10.4. VESSEL SHOULD BE SHRINK WRAPPED FOR SHIPMENT OVER OCEAN AND LAND.
10.5 ALL PARTS TO BE PROTECTED FROM DAMAGE AND CORROSION DURING STORAGE AT SITE FOR A POSSIBLE MAXIMUM TIME OF 12 MONTHS.
10.6 SPARE GASKETS AND BUILDING HARDWARE SHALL BE WRAPPED IN A WATERTIGHT BARRIER MATERIAL AND ENCLOSED IN PLYWOOD CONTAINERS.
10.7 MACHINED SURFACES, FLANGE FACES, THREADED SURFACES, AND OTHER FINISHED OR DELICATE PARTS SHALL BE WELL-GREASED AND PROTECTED AGAINST RUSTING AND DAMAGE DURING SHIPMENT.
10.8 THE OPENING IN THE SKIRT SHALL BE PROVIDED WITH TEMPORARY PIPE GUIDE OR SPIDER (WOOD "CHOCK") TO LOCATE THE PIPING DURING SHIPMENT. PERMANENT "SPIDER" S ARE PROHIBITED
10.9 EQUIPMENT ERECTION SHALL BE CONDUCTED IN SUCH A MANNER THAT THE LOADS IN THE LUG WEAR AXIS ARE MINIMAL, WITH A MAXIMUM OUT OF PLANE SLING ANGLE OF 3 DEGREES. A SPREADER BEAM OR A TWO-CRANE LIFT CAN BE USED DURING ERECTION TO SATISFY THIS REQUIREMENT
10.10 FOLLOWING NOTICE SHOULD BE PAINTED ON TWO SIDES OF THE SHELL IN 3" HIGH LETTERS VISIBLE IN SHIPPING POSITION FROM GRADE. "CAUTION – UNDER INERT ATMOSPHERE – DO NOT OPEN WITHOUT PROPER PRECAUTIONS"
10.11 EQUIPMENT SHALL BE FILLED WITH NITROGEN AT SLIGHTLY POSITIVE PRESSURE (7 PSIG (0.5 Kg/cm2 g) APPROX) PRIOR TO DESPATCH. A DIAPHRAGM-TYPE PRESSURE GAUGE WITH FULL SCALE READING OF 1 BAR G (15 PSIG) SHALL BE PROVIDED TO MONITOR THE PURGE PRESSURE. A PRESSURIZATION CONNECTION (WITH SELF-SEALING OR MANUAL VALVE) SHALL BE PROVIDED
10.12 PLATFORM SUPPORT CLIP & LADDER CLIP HEX BOLT (BOM PART NO 505,509,513,518,521,524, 527,530) SHALL BE LOOSE SUPPLIED

11. SPARES :

11.1 ALL BLIND FLANGED NOZZLES INCLUDING MANWAYS & HANDHOLES SHALL BE PROVIDED WITH 10% FASTENERS PER SIZE (MIN. 2 SETS) AND 2 NOS. GASKETS PER NOZZLE.

DESIGN DATA

DESIGN CODE : ASME Section VIII, Div. 1, Edition 2019 + NB REGISTRATION + U STAMP

DESCRIPTION	UNITS	
OPERATING PRESSURE	psi (g)	15 PSI(g)@105 Deg.F
OPERATING TEMPERATURE	°F	105
DESIGN PRESSURE (INT/EXT)	psi (g)	105 / 15
DESIGN TEMPERATURE (INT/EXT)	°F	500 / 300
MDMT AT MAWP	°F	32 AT 168.9 psi (g)
HYDROTEST PRESSURE (SHOP) UG-99(c)	psi (g) [kg/cm²(g)]	283.921 [19.96] REF. NOTE NO. 7
HYDROTEST PRESSURE (SITE) UG-99(b)	psi (g)	219.565
MAWP (INT.)	psi (g)	168.9 AT 500°F (LIMITED BY STANDARD FLANGE)
MAWP (EXT.)	psi (g)	15 AT 300°F
MAPnc	psi (g)	219.7
CORROSION ALLOWANCE (INT/EXT)	inch/ (mm)	0 [0] / 0 [0] (MINIMUM 1/8" [3.2mm] CLAD), SUPPORT SKIRT – 0.059"[1.5mm]
NDT RADIOGRAPHY		REFER NOTE NO. 4. (RT-4)
NDT DPT/MPT		YES, REFER NOTE NO. 5
JOINT EFFICIENCY (SHELL / DISH END)		0.85 / 1.0
PWHT		NO, EXEMPTED AS PER UCS-56
PFHT		EXEMPTED, AS PER UCS-79
IMPACT TEST		NO, REFER NOTE 2.5
INSULATION THK / TYPE (BY OTHERS)	inch/ (mm)	N.A.
FIRE PROOFING FOR SUPPORT		NA
PROCESS FLUID		--
PROCESS FLUID SPECIFIC GRAVITY		1.02 @105°F
ADDITIONAL LOADINGS AS PER UG-22		a,b,c,d,f,j
NB REGISTRATION		YES
VESSEL IN SOUR WATER SERVICE		YES
SERVICE (LETHAL OR NON LETHAL)		NON LETHAL
INSPECTION AUTHORITY		AI / TPI
ASME STAMPING		YES WITH 'U' DESIGNATOR
FABRICATED	lbs/Kg.	10225 / 4640
EMPTY	lbs/Kg.	17960 / 8150
OPERATING	lbs/Kg.	22105 / 10030
SHOP HYDROTEST	lbs/Kg.	20850 / 9460
FIELD HYDROTEST	lbs/Kg.	27800 / 12610
SHIPPING	lbs/Kg.	10225 / 4640
ERECTION	lbs/Kg.	17960 / 8150
WIND SPEED	101 MPH	RISK CATAGORY – III
WIND DESIGN CODE	ASCE-7-2016	EXPOSURE CATEGORY-C
SEISMIC DESIGN CODE	ASCE 7 -2016	SITE CLASS 'D' R=3.0 / IMPORTANCE FACTOR 1.25 / Ss 1.616 / S1 0.869

NOZZLE SCHEDULE

NOZZLE NO.	SIZE NPS / (DN)	THK. / SCH. INCH (mm)	ASME B16.5 TYPE - FACING	RATING	PROJ. FROM @ / TL	R/F.PAD OD INCH (mm) x THK. INCH (mm)	SERVICE	REMARK
A	6 (150)	SCH. 80 / (10.97)	WN-RF #	300 CL	SEE DRG	13.77"(350) x 0.393"(10)	FEED INLET W/ INLET BOX	WELD OVERLAY
B1	8 (200)	SCH. 80 / (12.7)	WN-RF #	300 CL	SEE DRG	13.77"(350) x 0.393"(10)	VAPOR OUTLET	WELD OVERLAY
B2	3 (80)	SCH. 80 / (7.62)	WN-RF #	300 CL	SEE DRG	7.086"(180) x 0.393"(10)	LIQUID OUTLET W/ VORTEX BREAKER	WELD OVERLAY
B3	2 (50)	0.653" (16.6)	LWN-RF ##	600 CL	SEE DRG	--	SPARE NOZZLE	WELD OVERLAY
B4	2 (50)	0.653" (16.6)	LWN-RF ##	600 CL	SEE DRG	--	FUTURE PUMP MINIMUM FLOW W/BLIND	WELD OVERLAY
V	10 (250)	SCH. 80 / (15.09)	WN-RF #	300 CL	SEE DRG	16.73"(425) x 0.393"(10)	VENT	WELD OVERLAY
D	2 (50)	SCH. 80 / (5.54)	WN-RF ##	600 CL	SEE DRG	--	DRAIN	WELD OVERLAY
S	2 (50)	0.653" (16.6)	LWN-RF ##	600 CL	SEE DRG	--	STEAM OUT	WELD OVERLAY
M	24 (600)	0.708" (18)	WN-RF	150 CL	SEE DRG	37.40"(950) x 0.393"(10)	MANWAY W/ BLIND & DAVIT	CLADDING+WELD OVERLAY
L1	2 (50)	0.653" (16.6)	LWN-RF ##	600 CL	SEE DRG	--	LEVEL GAUGE	WELD OVERLAY
L2	2 (50)	0.653" (16.6)	LWN-RF ##	600 CL	SEE DRG	--	LEVEL GAUGE	WELD OVERLAY
LT1	2 (50)	0.653" (16.6)	LWN-RF	300 CL	SEE DRG	--	LEVEL TRANSMITTER	WELD OVERLAY
LT2	2 (50)	0.653" (16.6)	LWN-RF	300 CL	SEE DRG	--	LEVEL TRANSMITTER	WELD OVERLAY
LT3	2 (50)	0.653" (16.6)	LWN-RF	300 CL	SEE DRG	--	LEVEL TRANSMITTER	WELD OVERLAY
LT4	2 (50)	0.653" (16.6)	LWN-RF	300 CL	SEE DRG	--	LEVEL TRANSMITTER	WELD OVERLAY
SA	--	0.314" (8)	--	--	SEE DRG	--	SKIRT MANWAY	
SO	6 (150)	SCH. 80 / (10.97)	--	--	SEE DRG	--	SKIRT OPENING FOR NOZZLE B2	
SV1-SV4	3 (80)	SCH. 80 / (7.62)	--	--	SEE DRG	--	SKIRT VENT W/ BANDING	

#REFER NOTE 1.21 ## REFER NOTE 1.22

REFERENCE PRAJ DRAWING /DOCUMENTS:-

DESCRIPTIONS	DRAWING/DOCUMENT NO.	CLIENT DOCUMENT NO.
MECHANICAL DESIGN CALCULATIONS FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-CAL-0001	EN207122-PRAJ-9V3-00012
FABRICATION DETAILS DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-WFD-0001	EN207122-PRAJ-9V3-00035
MANHOLE DETAILS DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-WFD-0002	EN207122-PRAJ-9V3-00047
WELD MAP DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-WEL-0001	--
DEVELOPMENT DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-DEV-0001	EN207122-PRAJ-9V3-00065
MANUFACTURER'S NAME PLATE DETAIL DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-NPD-0001-SHT-1 OF 2	EN207122-PRAJ-9V3-00066
ASME NAME PLATE DETAIL DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-NPD-0001-SHT-2 OF 2	EN207122-PRAJ-9V3-00066
TRANSPORTATION DETAIL DRAWING FOR 18-D-271 ARG1 AMINE REGEN REFLUZ DRUM	E-22064-ME-11-TSD-0001	EN207122-PRAJ-9V3-00070
TOLERANCE DETAIL DRAWING	E-22064-ME-11-TOL-0001	--
SPARE PART INVENTORY	E-22064-ME-11-SPIR-0001	EN207122-PRAJ-9V3-XXXX

MATERIAL OF CONSTRUCTION

COMPONENTS	MATERIALS	COMPONENTS	MATERIALS
MAIN SHELL	SA-516 GR.70+SS316L CLAD	FITTINGS	SA 234 Gr. WPB+SS316L W/O
DISHED END	SA-516 GR.70+SS316L CLAD	SKIRT BASE PLATE/TOP PLATE	SA 516 Gr. 70
SKIRT SHELL	SA-516 GR. 70	LIFTING LUG / TAILING LUG	SA 516 Gr. 70
NOZZLE PIPE UPTO 12" NPS (DN300)	SA 106 Gr.B+SS316L W/O	GROUND LUG	AISI 304
NOZZLE PIPE ABOVE 12" NPS (DN300)	SA-516 GR.70+SS316L CLAD	BRACKET FOR NAME PLATE	SA 516 Gr. 70
NOZZLE FLANGE/BLIND (EXTERNAL)	SA-105 + SS316L W/O	NAME PLATE	AISI 304
NOZZLE FLANGE (INTERNAL)	N.A.	ANCHOR BOLTS (BY OTHERS)	ASTM F1554 GR.55
STUD/NUT FOR NOZZLE FLANGES (EXT.)	SA-193-B7M/SA-194-2HM	EXT. ATTACHMENTS	SA-516 GR. 70
BOLTS/NUTS (INT.)	ASTM SA-193-B8M/SA-194-8M	GASKET (EXTERNAL)	4.5 THK SPIRAL WOUND SS316 WITH GRAPHITE FILLED WITH SS 316 INNER & OUTER RING, FLEXITALIC STYLES CG100 , LAMONS STYLES WR/WR-LC, TEADIT STYLE 913M/913M LE
INTERNAL WELDED ATTACHMENT	SA240 TYPE 316L		
REMOVABLE INTERNALS	SS 316L		
MANWAY DAVIT	SA 106 GR. B		
MANWAY DAVIT EYE BOLT	IS 2062 E250 GR A/B	LADDER RUNG	AISI 316L

REV. NO	DESCRIPTION	ZONE NO.	DRAWN	CHKD.	APPD.	DATE
6	REVISED AS PER MARKED	1-16 TO A-J	RKC	AVM/SRW	BK	14-04-2023
5	REVISED AS PER CLIENT COMMENTS	1-16 TO A-J	RKC	AVM/SRW	BK	04-11-2022
4	REVISED AS PER CLIENT COMM