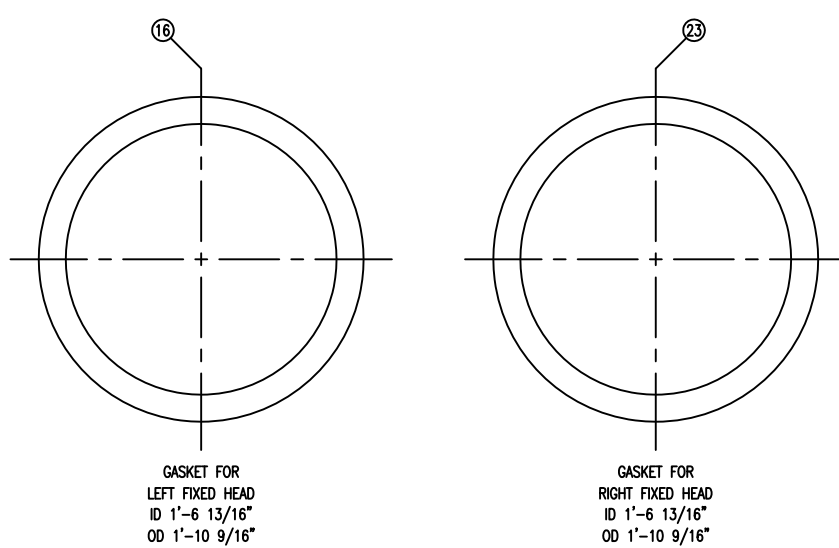


1. ALL DIMENSIONS ARE IN FOOT-INCHES.

2. ALL BOLT HEADS TO STAND ABOVE NATURAL CORNER LINES.

3. FOR TOLERANCES REE SHEEL & TUBE EXCHANGERS STD-15-019 REV-3.

4. HYDRO TEST SHALL BE DONE IN HORIZONTAL POSITION.

5. UNIT TO BE MOUNTED IN HORIZONTAL POSITION.

6. INDICATED THICKNESSES ARE MINIMUM AFTER CONSTRUCTION.

7. FLANGES UP TO 24" SHALL CONFORM TO ASME B16.5.

8. FLANGES ABOVE 24" SHALL CONFORM TO ASME B16.47.

9. ALL NOZZLES 2" AND BELOW SHALL BE PROVIDED WITH STIFFENER.

10. STIFFENER SIZE: 1/4" X 1/4" AT RIGHT ANGLES.

11. AFTER HYDROTEST, EQUIPMENT SHALL BE COMPLETELY DRIED OUT WITH HOT AIR.

12. BLIND FLANGES SHALL BE PROVIDED WHERE MENTIONED.

13. OTHER FLANGES SHALL BE COVERED WITH STEEL COVERS.

14. FINISH ON CASING SEATING FACE OF NOZZLE FLANGES SHALL BE 125-150 ARAH FOR SPOOL WOUND GASKETS.

15. ALL SHARP CORNERS SHALL BE ROUNDED OFF WITH SMOOTH RADII SPECIFIED OTHERWISE.

16. ALL PRESSURE BEARING PLATES SHALL BE SUPPLIED IN NORMALIZED CONDITION.

17. THESE PLATES SHALL CONFORM TO SA-20.

18. TOLERANCE ON PLATE THICKNESS SHALL BE 0% ON POSITIVE SIDE ONLY.

19. FINAL ROLLING OF THE PLATES SHALL BE LENGTHWISE.

20. ALL FLANGES SHALL BE 100% UT EXAMINED IN ACCORDANCE WITH SA888, SEC 6 & 8, BEFORE ANY DRILLING OPERATION.

21. ALL WELDS SHALL BE PENETRATION WELDS, AFTER BACK CHIPPED TO SOUND METAL.

22. ALL WELDS SHALL BE REMOVED FROM OTHER SURFACES, LAMINATION OR SEGREGATIONS.

23. THOSE JOINTS THAT ARE NOT ACCESSIBLE FOR BACK CHIPPING, RPOD SHALL BE CARRIED OUT WITH GTAW PROCESS.

24. NON DESTRUCTIVE EXAMINATION :

24.1. ALL BUTT WELD EDGES SHALL BE UT EXAMINED FOR A DISTANCE OF 2 TIMES MATERIAL THICKNESS.

24.2. UNDERCORROSION AND STRAIGHT FACE OF DISHED HEADS SHALL BE 100% IF EXAMINED, AFTER FORMING.

24.3. 100% EXAMINATION OF DISHED HEADS SHALL BE DONE AFTER HEAT TREATMENT.

24.4. ALL NOZZLE WELDS SHALL BE DP EXAMINED AFTER ROOT RUN AND FINAL PASS.

24.5. EXTERNAL SURFACES OF WELDS WITH THICKNESS MORE THAN 2" SHALL BE DP/MT EXAMINATION AFTER HYDROTEST.

24.6. ALL WELDING SURFACES SHALL BE OIL AND DRYED WITH DRY AIR.

24.7. MP/DP TEST SHALL BE CARRIED OUT ON INSIDE/OUTSIDE SURFACES OF DISHED HEADS.

24.8. MACHINED SURFACES OF ALL FORINGS SHALL BE EXAMINED FOR SURFACE DEFECTS BY MP/DP TEST.

24.9. METHODS FOR FASTENING NUTS TO THE RODS :

25. METHODS FOR FASTENING NUTS TO THE RODS :

25.1. WELD SECOND NUT TO THE ROD.

25.2. WELD BOTH NUTS TO THE ROD.

25.3. WELDS TO EXTEND THE LENGTH OF ONE PLATE LENGTH.

25.4. TOLERANCE FOR ALL NOZZLES ON TRUE VERTICAL LINE FROM ACTUAL NOZZLE CENTER LINE IS +/-1/8".

26. TOLERANCE FOR ALL NOZZLES ON TRUE VERTICAL LINE FROM ACTUAL NOZZLE CENTER LINE IS +/-1/8".

27. HEAT EXCHANGER SHALL BE HYDRO TESTED WITH CLEAN POTABLE WATER, SEA WATER SHALL NOT BE USED.

28. AFTER HYDROTEST, EQUIPMENT SHALL BE DRYED AND DRYED WITH DRY AIR.

29. EQUIPMENT SHALL BE PERFECTLY CLEANED AND FREED FROM ALL FOREIGN MATERIAL.

30. ALL NOZZLES SHALL BE COVERED WITH TEMPORARY COVERS, TO AVOID DAMAGE IN TRANSPORT.

31. PAINTING :

31.1. ALL INTERNAL UNMACHINED CS SURFACES SHALL BE PAINTED WITH ONE COAT OF INORGANIC ZINC SILICATE.

31.2. PAPER GR-675 MICRON DUT SHALL BE APPLIED AFTER SHOT BLASTING THE SURFACE TO SA 2 1/2 FINISH.

31.3. PRIMING UDS SHALL NOT BE PAINTED OR GALVANIZED.

31.4. CLIENT'S NAME, ADDRESS, EPOT, NO. P.O.NO. SHALL BE PAINTED ON SHELL WITH WHITE PAINT.

31.5. ALL WEAVING FACES AND OTHER EXPOSED SURFACES SHALL BE GRADED AND PROTECTED FROM RUST.

31.6. BOLT HEADS SHALL BE UPOBATED.

32. GASKETS :

32.1. SERVICE GASKETS SHALL NOT BE USED FOR HYDROTEST.

32.2. GASKET MATERIAL FOR HYDROTEST SHALL BE SAME AS SERVICE GASKET.

32.3. EQUIPMENT SHALL BE SHIPPED IN AS HYDROTESTED CONDITION, WITHOUT REMOVING GASKETS USED FOR HYDROTEST.

32.4. SERVICE GASKETS SHALL BE SENT LOOSE, AND ASSEMBLED AT SITE BY OTHERS.

32.5. GASKET MATERIAL FOR NOZZLE FLANGES SHALL BE S 316 SPOIL WOUND WITH GRAVEL FILLER AND CS O/R LING.

32.6. GASKETS SHALL BE IN ACCORDANCE WITH ASME SECTION 16.20.

32.7. THE m AND y VALUES OF SPRAIL WOUND GASKET SHALL BE GUARANTEED AS PER ASME SEC VII, DIV 1.

32.8. GASKET CERTIFICATES SHALL INDICATE THE NAME OF THE GASKET AND BE PART OF FINAL DOCUMENTATION.

32.9. VENT NOZZLES TO BE KEPT OPEN DURING FILLING OF WATER FOR HYDROTEST AND DURING DRAINING.

32.10. TOLERANCES SPECIFIED ARE IN ADDITION TO TOLERANCES.

32.11. LIFTING LUGS ARE DESIGNED FOR LIFTING IN EMPTY CONDITION.

32.12. HARDNESS OF METAL IN GASKET SHALL BE MINIMUM 15 BHN LOWER THAN FLANGE GASKET SEATING SURFACE METAL.

32.13. HARDNESS IN NO CASE SHALL EXCEED 160 BHN.

32.14. FILLER IN METAL JOINTS SHALL BE OF SAME TYPE AND COMPOSITION.

32.15. ALL GASKETS SHALL BE MADE IN ONE CONTINUOUS PIECE ALL AROUND.

32.16. ALL GASKETS SHALL BE MADE IN ONE CONTINUOUS PIECE ALL AROUND.

32.17. PASS PARTITION RIBS MUST BE CUT FROM SAME SHEET.

32.18. PLATE JACKED FACE OF THE SHELL SHALL BE ON ONE PARTITION PLATE SIDE.

32.19. GASKET FOR ORTH FLANGES SHALL BE NOT REMOVED AROUND FIFTE.

32.20. IF RP PASS SHALL BE PROVIDED 2 NOS. OF 1/4" NPT TAIL TALE FOR AR/SP/SPAL SOLUTION TEST.

33. HOLES TO BE PLUGGED WITH HARD GRADE AFTER TELLING.

34. APPROPRIATE COVERS FOR PIPES AND NOZZLES SHALL BE PROVIDED.

35. ASME B16.9 FOR FACTORY MADE WROUGHT BUTT WELD FITTINGS.

36. ASME B16.47 FOR FORGED FITTINGS, SOCKET WELDING AND THREADED JOINTS.

37. HEAT TREATMENT CYCLE FOR DISHED END :

38.1. LOADING TEMPERATURE : 540 DEG F

38.2. RATE OF HEATING : 100 TO 400 DEG F PER HOUR

38.3. SOAKING TEMPERATURE : 1100 +/- 10 DEG F

38.4. RATE OF COOLING (UP TO 540 DEG F) : 100 TO 500 DEG F PER HOUR

38.5. RATE OF COOLING (<540 DEG F) : AIR

39. NAME PLATE SHALL BE TACKED WELDED TO BRACKET ON ALL FOUR SIDES IN ADDITION TO RIVETS.

40. SEALING STRIPS SHALL BE CONTINUOUS.

41. ALL EDGES OF BAFFLE PLATES SHALL BE WELDED BACK AFTER WELDING SEALING STRIPS.

42. TOP PORTION OF BAFFLE TO BE CUT TO ACCOMMODATE MOUNTING PLATE.

43. TUBE HOLES EDGES IN TUBE SHEET AND BAFFLES SHALL BE CHAMFERED TO 1X45 DEG ON BOTH SIDES.

44. FOLLOWING PARTS SHALL BE SUPPLIED AS SPARES :

44.1. 400K GASKETS FOR ORTH JOINTS AND NOZZLES WITH BLIND FLANGES.

44.2. 20K (MINIMUM 4 SETS) OF STOPS AND NUTS FOR ORTH JOINTS AND NOZZLES WITH BLIND FLANGES.

44.3. BOTTOM SEALING STRIP SHALL BE CONTINUOUS, AND SHALL EXTEND BETWEEN END BAFFLES.

44.4. FOR BULK OF MATERIAL REE SHEET 3 OF 3.

44.5. STOP CUTTING OUT SHALL BE REQUIRED ON SHELL/TUBE SIZE AT 75 16/32 INCH AND AN 8000 CG F.

45. SLIDING END SHALL BE PAINTED WITH " CAUTION " SLIDING END.

46. ALL TUBES SHALL BE COLD DRAIN, SEAMLESS, SINGLE PIECE AND IN ANNEALED CONDITION.

47. ALL TUBE HOLES SHALL HAVE CLOSE FIT AS PER TEMA.

0	06-27-2025					GSD	AKK	HWR	
REV	DATE				DESCRIPTION		DWN	CHKD	APPD
					REVISION LIST				
					COMPANY NAME				
					CITY				
JERN GSD					Client: ABC ENGINEERS				
DATE: 06-27-2025					Consultants: ABC CONSULTANTS				
CHKO AKK					End User: ABC CLIENTS				
DATE: 08-27-2025					Title				
APPD HWR									
DATE: 06-27-2025					PART DETAILS				
SCALE: 1:10.0									
SHEET 9									
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						COMPANY JOB NO.: XYZ 001			
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