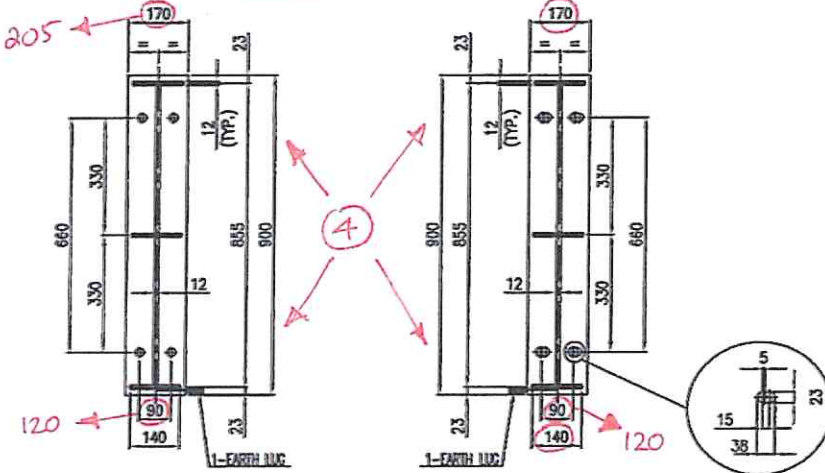


- NOTES
- UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN MILLIMETERS.
  - UNLESS OTHERWISE NOTED OUTSIDE PROJECTION OF NOZZLES ARE MEASURED FROM C.L. OF EXCHANGER TO THE EXTREME FACE OF NOZZLE.
  - ALL WELDS CONTINUOUS EXCEPT NOTED.
  - BOLT HOLES FOR FLANGES SHALL BE STRADDLED TO EQUIPMENT MAIN AXIS.
  - ALL R.F. FLANGES SHALL HAVE SMOOTH FINISH FACING WITH RA= 3.2mm TO RA= 6.3mm.
  - BASE LINE (B.L.) INDICATES THE GASKET CONTACT SURFACE OF TUBE SHEET.
  - REINFORCING PADS FOR NOZZLES SHALL BE TAPPED WITH AT LEAST ONE (1) TELL TALE HOLE NPT 1/4" WITH VENT PIPE.
- 1-#3 VENT HOLE  
1-NPT 1/4" TELL TALE HOLE W/ VENT PIPE
8. DIMENSIONS REFER TO BAFFLES ARE MEASURED FROM C.L. OF EACH PLATE.
9. GASKET MATERIAL FOR ASME B16.20. SPIRAL WOUND (14.5)  
- FILLER: GRAPHITE  
- INNER RING: 304 S.S.  
- HOOP: 304 S.S.
10. GASKET MATERIAL: SPIRAL WOUND (14.5)  
- FILLER: GRAPHITE  
- INNER RING: 304 S.S.  
- HOOP: 304 S.S.
11. SPARE PART (OPTIONAL)
- | CONSTRUCTION & COMMISSIONING |                 |
|------------------------------|-----------------|
| GASKETS                      | 100%            |
| STUD BOLTS & NUTS            | 5% (MIN. 2SETS) |
12. ALL EXPOSED SURFACE SHALL BE PAINTED AS FOLLOWS: EXPOSED SURFACE FOR EXTERNAL PARTS: E027-HSE-YD-QC-PRO-002 EXPOSED SURFACE OF INTERNAL: NOT PARTS REQUIRED 1/1.4 FACTOR FOR LOAD COMBINATION HAS BEEN APPLIED
13. TUBES SHALL BE SEAMLESS
14. GASKET CONTACT SURFACE OF TUBE SHEET & GIRTH FLANGE: RA= 1.6µm (MAX)
15. FURTHER DETAILS TO BE ADDED FOR DISCLAIMER PURPOSES SUCH AS AFTER HYDROTEST TO BE CLEANED AND DRIED.



- ① CHANGE NOZZLE TAG "D" to "D2".
- ② ADD DRAIN NOZZLE "D1" - 2" AT 1855 MM FROM B.L.
- ③ ORIENTATION & PROJECTION OF NOZZLE D1 AS INDICATED ABOVE.
- ④ WIDTH OF SADDLE TO BE INCREASED TO 205MM FROM 170MM. DISTANCE BETWEEN BOLT HOLES TO BE INCREASED TO 120MM FROM 90MM.

| TABLE FOR FOUNDATION LOAD DATA  |                |                          |                     | MATERIALS                 |                  |                        |  | DESIGN DATA                     |                   |           |  |
|---|----------------|--------------------------|---------------------|---------------------------|------------------|------------------------|--|---------------------------------|-------------------|-----------|--|
| WIND  |                | SEISMIC (NOTE 13)        |                     | SHELL                     |                  | GENERAL                |  | CODE                            |                   | ASME      |  |
| SHEAR (kgf)   | MOMENT (kgf-m) | SHEAR (kgf)              | MOMENT (kgf-m)      | BARREL                    | SA516-70N        | SLIDING BAR/ROD        | SA516 70/SA36  | TEMA CLASS                      | TEMA 10TH ED. (C) |           |  |
|   |                |                          |                     | FLANGES                   | -                | SEALING STRIP          | SA516 70 <td>LOCAL REGULATION</td> <td colspan="3">NO</td> | LOCAL REGULATION                | NO                |           |  |
| 478   | 430            | 970                      | 873                 | NOZZLE FROM PIPE          | SA333-6          | DUMMY TUBE/SEAL ROD    | -  | FLUID                           | PROPANE           |           |  |
| LEGEND<br><br>B.L. = BASE LINE<br>C.L. = CENTER LINE<br>M.D.M.T. = MIN. DESIGN METAL TEMPERATURE<br>N. = NORMALIZED<br>O.T.L. = OUTER TUBE LINE<br>C.O.G. = CENTER OF GRAVITY<br>T.O.G. = TOP OF GROUTING<br>W.P. = WORKING POINT |                |                          |                     | NOZZLE FROM PLATE         | SA516-70N        | BLUNDED NOZZLE BOLT/NU | SA320 L7/SA194-4   | DESIGN (INT/EXT)                | PRESS. (barg)     | 22/F.V.   |  |
|   |                |                          |                     | NOZZLE FLANGES            | SA350-LF2 CL1N   | BLUNDED NOZZLE GASKET  | SEE NOTE "9"   | TEMP. (°C)                      | 120/85            |           |  |
|   |                |                          |                     | COUPLINGS & PLUGS         | -                | TEST RING              | SA-266 2   | SEAM OUT CONDITION              | -                 |           |  |
|   |                |                          |                     | NOZZLE REINF. PAD         |                  | SA516-70N              | GASKETS  |                                 |                   |           |  |
|   |                |                          |                     | EXCHANGERS SUPPORTS       | SA283-C          | SHELL/COVER            | -  | OPER. PRESS. (barg)             | 3.813             |           |  |
|   |                |                          |                     | SUPPORT WEAR PLATE        | SA516-70N        | SHELL/TUBESHEET        | SEE NOTE "10"  | TEMP. (°C)                      | 1.24/1            |           |  |
|   |                |                          |                     | STIFFENING RINGS          | SA516-70N        | CHANNEL/TUBESHEET      | SEE NOTE "10"  | CORROSION ALLOWANCE (mm)        | 3                 |           |  |
|   |                |                          |                     | EXPANSION JOINT           | -                | CHANNEL/COVER          | -  | JOINT EFFICIENCY (S/H)          | 1.0/1.0           |           |  |
|   |                |                          |                     | LINING                    | -                | FLOATING HEAD          | -  | RADIOGRAPHY (S/H)               | FULL/FULL         |           |  |
|   |                |                          |                     | SHELL COVER               |                  | FLOATING HEAD          |  | HYDRO. TEST PRESS. (SHOP/FIELD) | barg              | 28.6/28.6 |  |
| BARREL  | -              | COVER                    | -                   | HYDRO. TEST TYPE          | (U-B) MIN (C-20) |                        |  |                                 |                   |           |  |
| COVER   | -              | FLANGES                  | -                   | PHENOL TEST PRESS. (barg) | -                |                        |  |                                 |                   |           |  |
| FLANGES   | -              | SPLIT RING               | -                   | M.D.M.T. (°C)             | -45              |                        |  |                                 |                   |           |  |
| CHANNEL   |                | BOLTS & NUTS             |                     | MARK (HOT & COLD)         | barg             | 22                     |  |                                 |                   |           |  |
| BARREL  | SA516-70N      | SHELL/COVER              | -                   | MARK (NEW & OLD)          | barg             | 22                     |  |                                 |                   |           |  |
| FLANGES   | SA286-2H       | SHELL/CHANNEL            | SA320-L7/SA194-4    | P.W.H.T.                  | NO               |                        |  |                                 |                   |           |  |
| COVER   | SA516-70N      | CHANNEL/COVER            | -                   | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| FLAT COVER  | -              | FLOATING HEAD            | -                   | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| NOZZLE FROM PIPE  | SA106-B        | SETTING BOLTS/NUTS       | SA193 B7 / SA194 2H | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| NOZZLE REINF.   | SA516-70N      | TUBE BUNDLE              |                     | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| NOZZLE FLANGES  | SA105N         | TUBES                    | SA334-6             | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| COUPLINGS & PLUGS   | -              | TUBESHEETS               | SA350-LF2 CL1N      | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| NOZZLE REINF. PAD   | SA516-70N      | BUTTS/SUPPORTS/MP. PLATE | SA516-70            | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |
| PARTITION PLATES  | SA516-70N      | TIE RODS & SPACERS       | SA36/SA179          | IMPACT TEST               | NO               |                        |  |                                 |                   |           |  |