

- GENERAL NOTES**
- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
 - ALL BOLT HOLES ARE TO STRADDLE THE NORTH/SOUTH AND VERTICAL CENTER LINES.
 - NOZZLE PROJECTIONS ARE FROM CENTER LINE OF VESSEL OR NEAREST TANGENT LINE TO GASKET CONTACT SURFACE OF FLANGE.
 - ALL WELDS TO BE CONTINUOUS EXCEPT NOTED.
 - GASKET CONTACT SURFACES OF FLANGE : 125~250 AARH (3.2~6.3µm) WITH SPIRAL SERRATION.
 - ALL REINFORCEMENT PLATE TELL-TALE HOLE LOCATION.
- LONGITUDINAL C.L.
1-NPT 1/8" TELL TALE HOLE W/HEAVY GREASE
- SPARE PARTS : ERECTION & COMMISSIONING
 - GASKET : 25% (MIN. 3M)
 - BOLT & NUT : 5% (MIN. 2SETS)
 - PAINTING AS PER SPEC. "SSPS-SP6"
 - UNDER COAT : EPOXY PRIMER 50µm
 - UPPER COAT : EPOXY PAINT 2COATS 100µm
 - SURFACE FINISHING (IN/OUT) : ACID CLEANING
 - SKIRT PAINT SPEC.: UNFIRE PAINT (1hr)

MATERIAL SPECIFICATION

| | |
|-------------------|---------------------|
| SHELL, HEAD | GASKET (EXT.) |
| SKIRT | GASKET (INT.) |
| NOZZLE FLANGE | BOLT & NUT (EXT.) |
| BODY FLANGE | BOLT & NUT (INT.) |
| NOZZLE NECK PIPE | INTER. SUP'T WELDED |
| NOZZLE NECK PLATE | EXTER. SUP'T WELDED |
| FITTING | ANCHOR BOLT |
| REINF. PAD | NAME PLATE |
| EARTH LUG | |

DESIGN & TEST DATA

| | |
|-----------------------------------|------------------------------|
| LIQUID NAME | CODE STAMP |
| LIQUID DENSITY (kg/m³) | NATIONAL BOARD REGISTRATION |
| PRESSURE DESIGN OPER. | ERECTION WEIGHT EMPTY OPER. |
| TEMP. DESIGN OPER. | TEST |
| TEST PRESS. HYDROSTATIC PNEUMATIC | TYPE OF HEAD INSULATION (MM) |
| CORROSION ALLOW. (MM) | FIRE PROOF. (MM) |
| RADIOGRAPHIC (S/H) | PAINTING SPECIFICATION |
| JOINT EFF. (%) (S/H) | WIND VELOCITY (M/SEC.) |
| POST WELD HEAT TREATMENT | SEISMIC FACTOR |
| STRESS RELIEF | VOLUME (m³) |
| M.D.M.T. (°C) | REGULATION |
| M.A.W.P. (kg/cm²) | |

NOZZLE SCHEDULE

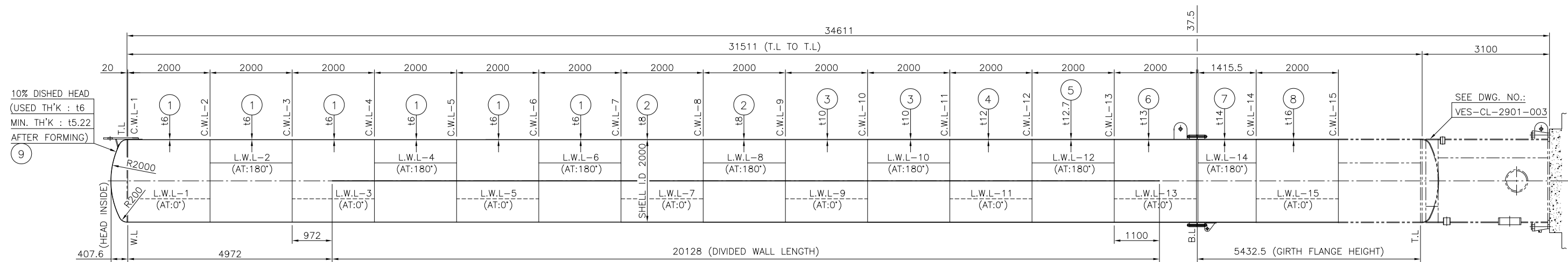
| NOZZLE MARK | NO. REQ'D | NOM. SIZE | SCH. NO. | FLANGE RATING | SERVICE | FROM CL. PROJECTION |
|-------------|-----------|-----------|----------|---------------|--------------------------------------|---------------------|
| A1 | 1 | 400A | t10 | KS 10K SO.RF | IPA OUTLET(VAPOR) | SEE DWG. |
| A2 | 1 | 80A | 40S | KS 10K SO.RF | REFLUX IPA INLET [1 1/2" DIP PIPE] | 1170 |
| A3 | 1 | 150A | 40S | KS 10K SO.RF | SPLITTER INLET | 1170 |
| A4 | 1 | 100A | 40S | KS 10K SO.RF | SPLITTER OUTLET (PRE) [2" DIP PIPE] | 1170 |
| A5 | 1 | 100A | 40S | KS 10K SO.RF | SPLITTER OUTLET (MAIN) [2" DIP PIPE] | 1170 |
| A6 | 1 | 50A | 40S | KS 10K SO.RF | IPA OUTLET (DWC PRODUCT) | 1170 |
| A7 | 1 | 50A | 40S | KS 10K SO.RF | RAW IPA INLET (DWC) [1" DIP PIPE] | 1170 |
| A8 | 1 | 50A | 40S | KS 10K SO.RF | IPA RECYCLE (조기순환용) [1" DIP PIPE] | 1170 |
| A9 | 1 | 550A | t10 | KS 10K SO.RF | IPA RECYCLE (REBOILER) | 1250 |
| A10 | 1 | 50A | 40S | KS 10K SO.RF | RAW IPA INLET (SINGLE) | 1170 |
| A11 | 1 | 25A | 40S | KS 10K SO.RF | IPA RECYCLE (NPA) | 1170 |
| A12 | 1 | 300A | 40S | KS 10K SO.RF | IPA OUTLET (REBOILER) | SEE DWG. |
| A13 | 1 | 40A | 40S | KS 10K SO.RF | IPA OUTLET (NPA) | SEE DWG. |
| T1-T9 | 9 | 25A | 40S | KS 10K SO.RF | TT | 1170 |
| P1,P4 | 2 | 80A | 40S | KS 10K SO.RF | PT | SEE DWG. /1170 |
| P2,P3 | 2 | 25A | 40S | KS 10K SO.RF | PG | 1170 |
| L1,L2 | 2 | 80A | 40S | KS 10K SO.RF | LT | 1170 |

NOZZLE SCHEDULE

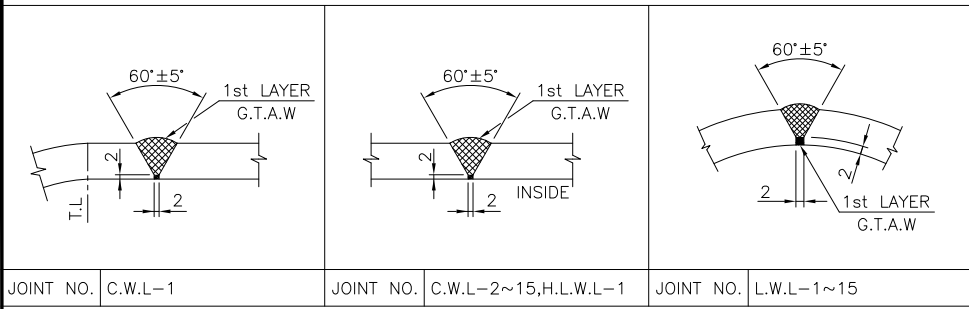
| NOZZLE MARK | NO. REQ'D | NOM. SIZE | SCH. NO. | FLANGE RATING | SERVICE | FROM CL. PROJECTION |
|-------------|-----------|-----------|----------|---------------|---------------------------|---------------------|
| M1-M10 | 10 | 600A | 6,8,10 | KS 10K SO.RF | MANHOLE (W/B.F. & DAVIT) | 1300 |
| S1-S4 | 4 | 100A | 40S | - | SIGHT GLASS | 1170 |
| EQ | 1 | 50A | 40S | - | EQUALIZING | 1170 |
| AH | 1 | ø490 | t30 | - | ACCESS OPENING | - |
| S01 | 1 | ø490 | t30 | - | SLEEVE OPENING | - |
| S02 | 1 | 200A | 40S | - | SLEEVE OPENING | - |
| V1~V4 | 4 | 100A | 40S | - | VENT OPENING | - |
| A14 | 1 | 25A | 40S | - | VENT FROM LIQUID SPLITTER | - |

REFERENCE DRAWINGS

| | |
|-----------------|-----------------------------------|
| VES-CL-2901-015 | DETAIL OF NAME PLATE |
| VES-CL-2901-014 | DETAIL OF TEMPLATE |
| VES-CL-2901-013 | DETAIL OF INSULATION SUPPORT CLIP |
| VES-CL-2901-012 | DETAIL OF NOZZLES 4 |
| VES-CL-2901-011 | DETAIL OF NOZZLES 3 |
| VES-CL-2901-010 | DETAIL OF NOZZLES 2 |
| VES-CL-2901-009 | DETAIL OF NOZZLES 1 |
| VES-CL-2901-008 | DETAIL OF MANHOLE 5 |
| VES-CL-2901-007 | DETAIL OF MANHOLE 4 |
| VES-CL-2901-006 | DETAIL OF MANHOLE 3 |
| VES-CL-2901-005 | DETAIL OF MANHOLE 2 |
| VES-CL-2901-004 | DETAIL OF MANHOLE 1 |
| VES-CL-2901-003 | DETAIL OF BODY 2 |
| VES-CL-2901-002 | DETAIL OF BODY 1 |



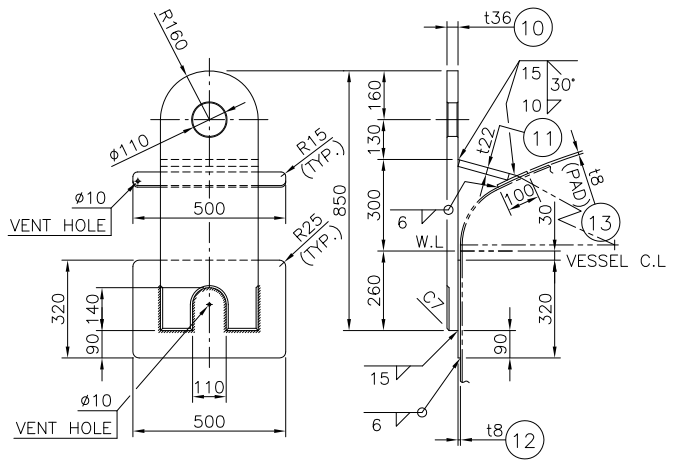
BODY SEAM PLAN(UPPER SIDE)



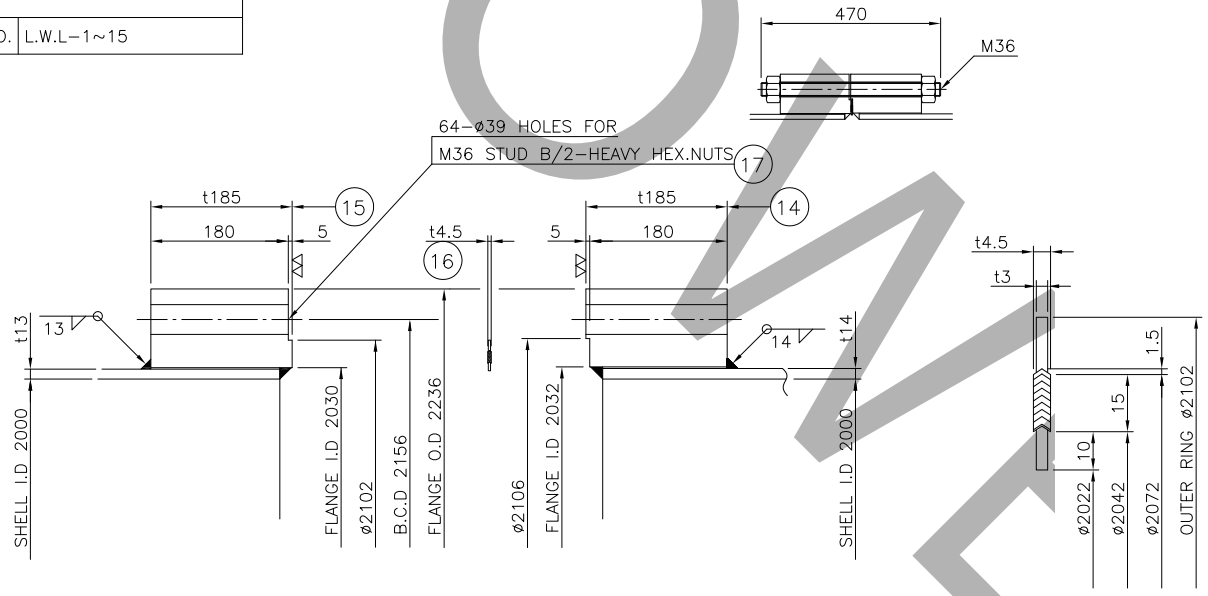
| | | | | | |
|-----------|---------|-----------|-----------------------|-----------|------------|
| JOINT NO. | C.W.L-1 | JOINT NO. | C.W.L-2~15, H.L.W.L-1 | JOINT NO. | L.W.L-1~15 |
|-----------|---------|-----------|-----------------------|-----------|------------|

NOTE
 1. GASKET MATERIAL : SPIRAL WOUND GASKET (t4.5)
 - FILLER : V-7010EX
 - HOOP : 316L S.S
 - INNER RING : 316L S.S
 - OUTER RING : 316L S.S

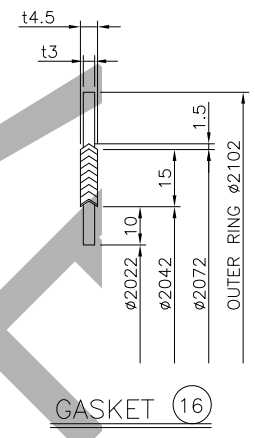
| PART NO. | PART NAME | MATERIAL | DIMENSIONS | INSTALL QTY PER 1 SET | SPARE QTY PER 1 SET | REMARK |
|----------|-------------------------|------------------|------------|-----------------------|---------------------|----------|
| 20 | DIVIDED WALL | A240-316L | t10 | 1 | | |
| 19 | REINF.PAD | A240-316L | t14 | 4 | | |
| 18 | LIFTING LUG | A283-C | t32 | 4 | | |
| 17 | STUD B/2-HEAVY HEX.NUTS | A193-B8M/A194-8M | M36x470L | 64 | | |
| 16 | GASKET | SEE NOTE "1" | t4.5 | 1 | | |
| 15 | GIRTH FLANGE(UPPER) | A182-F316L | t185 | 1 | | |
| 14 | GIRTH FLANGE(LOWER) | A182-F316L | t185 | 1 | | |
| 13 | REINF.PAD | A240-316L | t8 | 2 | | |
| 12 | REINF.PAD | A240-316L | t8 | 2 | | |
| 11 | GUSSET PLATE | A283-C | t22 | 2 | | |
| 10 | LIFTING LUG | A283-C | t36 | 2 | | |
| 9 | TOP HEAD | A240-316L | t6 | 1 | | 10% DISH |
| 8 | SHELL | A240-316L | t16 | 1 | | |
| 7 | SHELL | A240-316L | t14 | 1 | | |
| 6 | SHELL | A240-316L | t13 | 1 | | |
| 5 | SHELL | A240-316L | t12.7 | 1 | | |
| 4 | SHELL | A240-316L | t12 | 1 | | |
| 3 | SHELL | A240-316L | t10 | 2 | | |
| 2 | SHELL | A240-316L | t8 | 2 | | |
| 1 | SHELL | A240-316L | t6 | 6 | | |



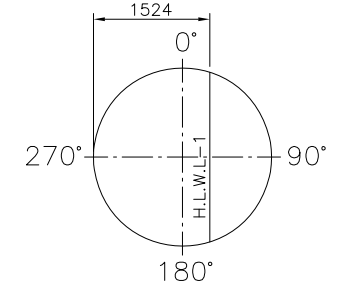
LIFTING LUG (TOP SIDE)



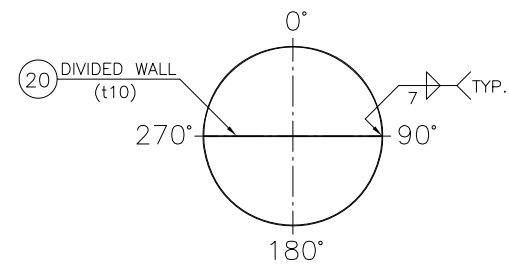
GIRTH FLANGE



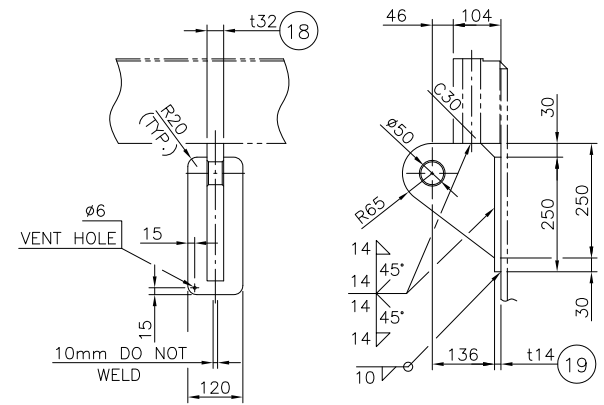
GASKET (16)



TOP HEAD SEAM PLAN

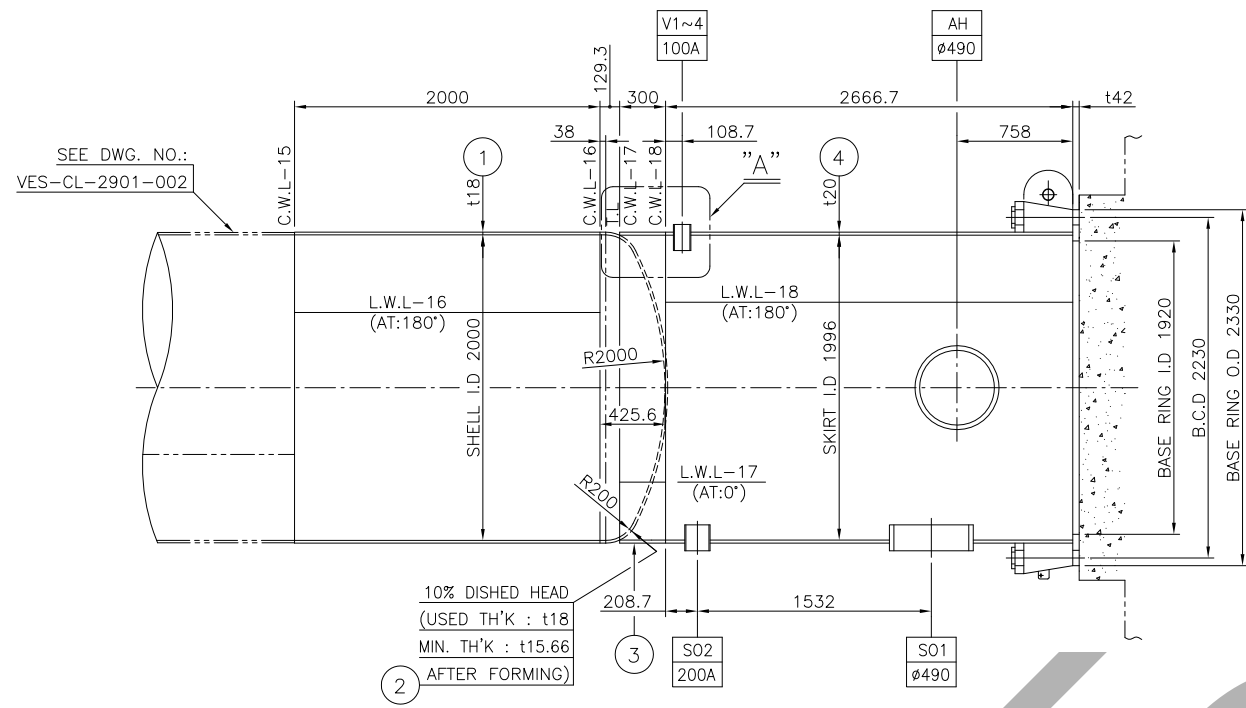


DIVIDED WALL PLATE

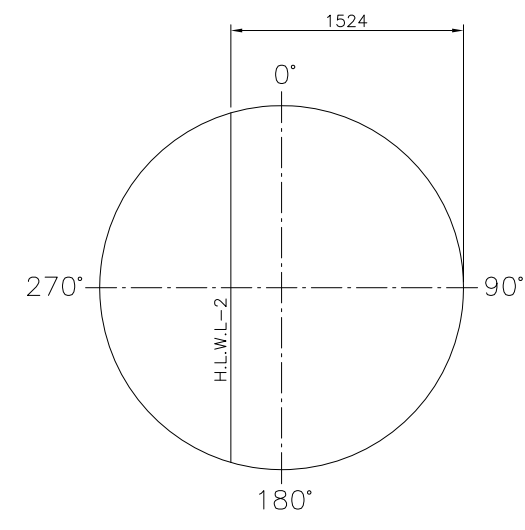


LIFTING LUG (LOWER SHELL SIDE)

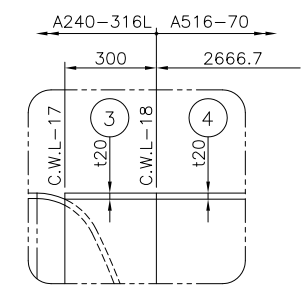
PART LIST [1 SET(S) TO BE MANUFACTURED]



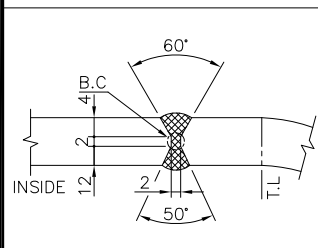
BODY SEAM PLAN (LOWER SIDE)



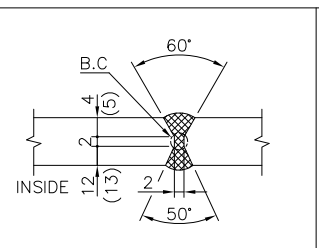
BTM. HEAD SEAM PLAN



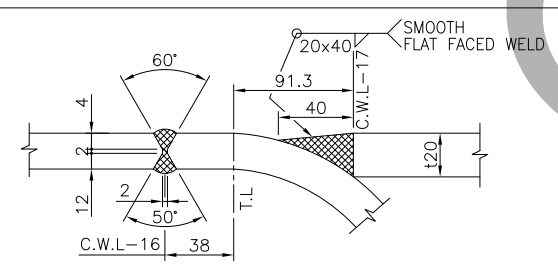
DETAIL OF "A"



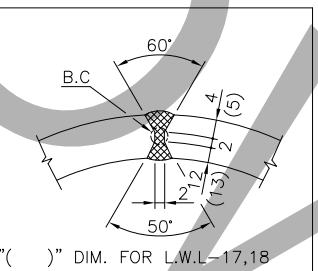
JOINT NO. C.W.L-16



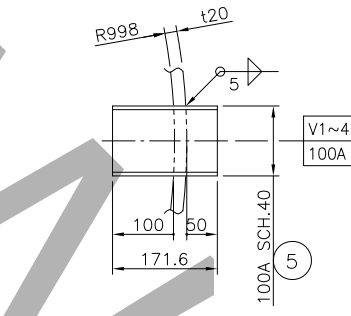
JOINT NO. C.W.L-15,18, H.L.W.L-2



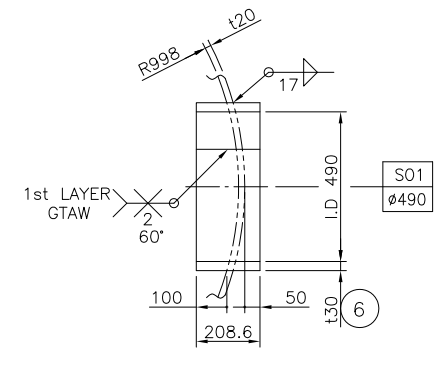
JOINT NO. C.W.L-16,17



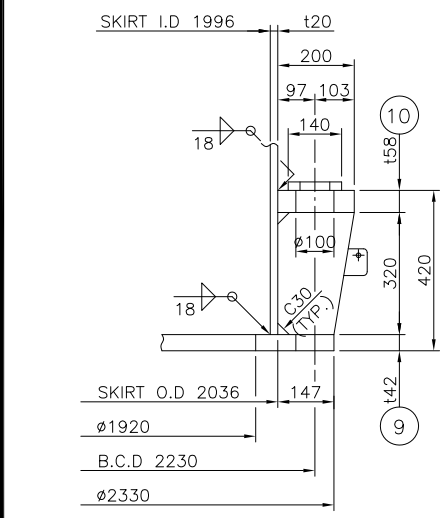
JOINT NO. L.W.L-17,18



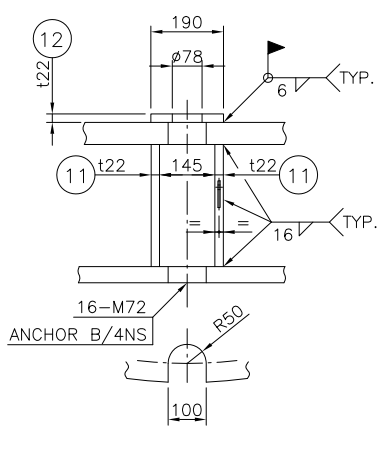
VENT OPENING



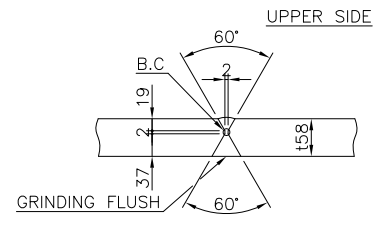
SLEEVE OPENING



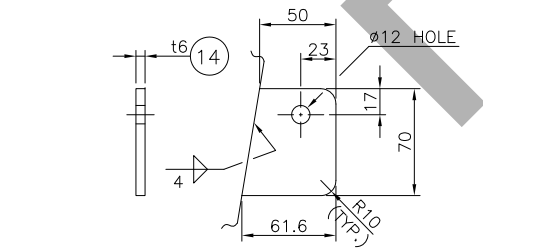
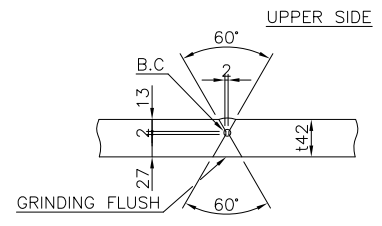
DETAIL OF BASE BLOCK



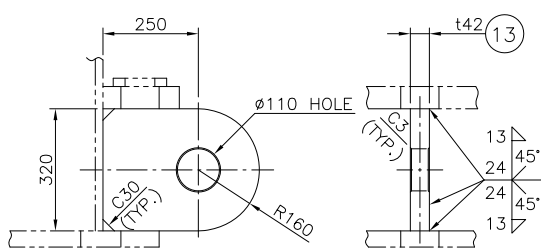
BASE RING JOINT



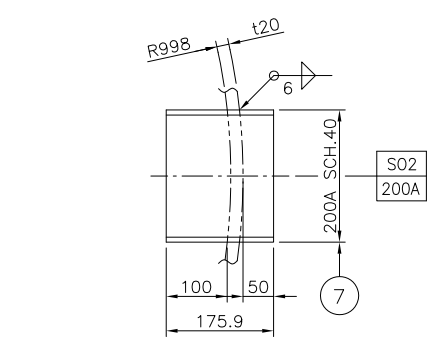
COMP. RING JOINT



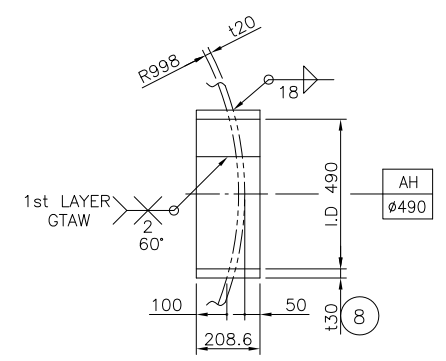
EARTH LUG (AT:33.75°, 213.75°)



TAILING LUG



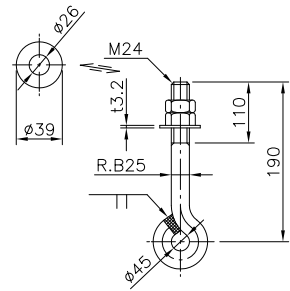
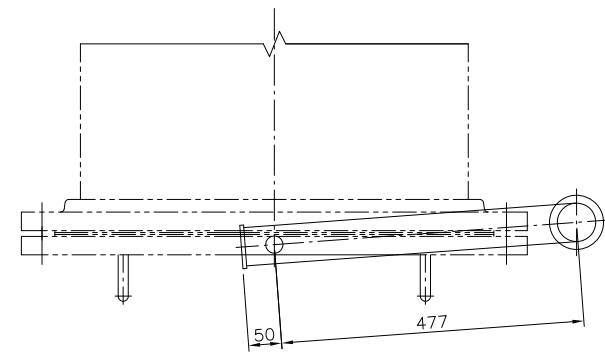
SLEEVE OPENING



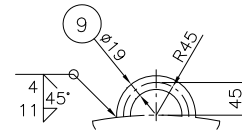
ACCESS OPENING

| PART NO. | PART NAME | MATERIAL | DIMENSIONS | INSTALL. QTY PER 1 SET | SPARE QTY PER 1 SET | REMARK |
|----------|----------------|-----------|-------------|------------------------|---------------------|----------|
| 14 | EARTH LUG | 304 S.S | t6 | 2 | | |
| 13 | TAILING LUG | A283-C | t42 | 1 | | |
| 12 | WASHER PLATE | A283-C | t22 | 16 | 2 | |
| 11 | GUSSET PLATE | A283-C | t22 | 32 | | |
| 10 | COMP.RING | A283-C | t58 | 1 | | |
| 9 | BASE RING | A283-C | t42 | 1 | | |
| 8 | ACCESS OPENING | A283-C | t30 | 1 | | |
| 7 | SLEEVE OPENING | A53-B | 200A SCH.40 | 1 | | |
| 6 | SLEEVE OPENING | A283-C | t30 | 1 | | |
| 5 | VENT OPENING | A53-B | 100A SCH.40 | 4 | | |
| 4 | LOWER SKIRT | A516-70 | t20 | 1 | | |
| 3 | UPPER SKIRT | A240-316L | t20 | 1 | | |
| 2 | BTM. HEAD | A240-316L | t18 | 1 | | 10% DISH |
| 1 | SHELL | A240-316L | t18 | 1 | | |

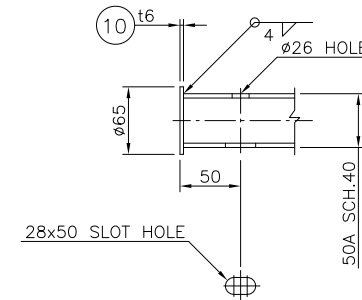
PART LIST [1 SET(S) TO BE MANUFACTURED]



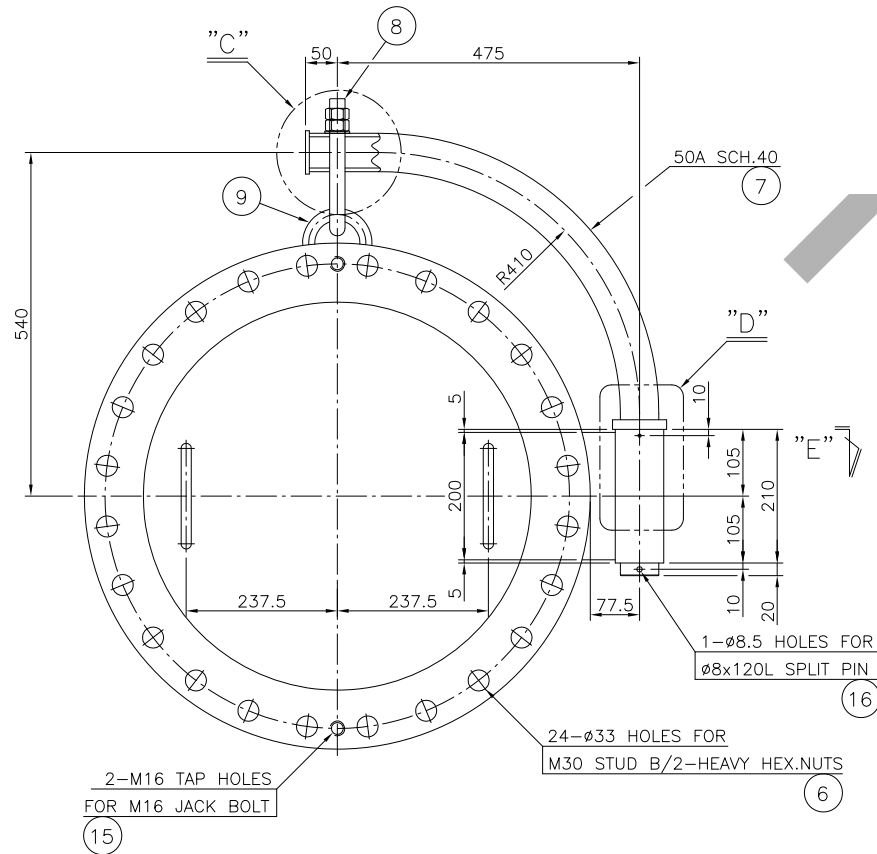
EYE B/2N/W (8)



HOOK

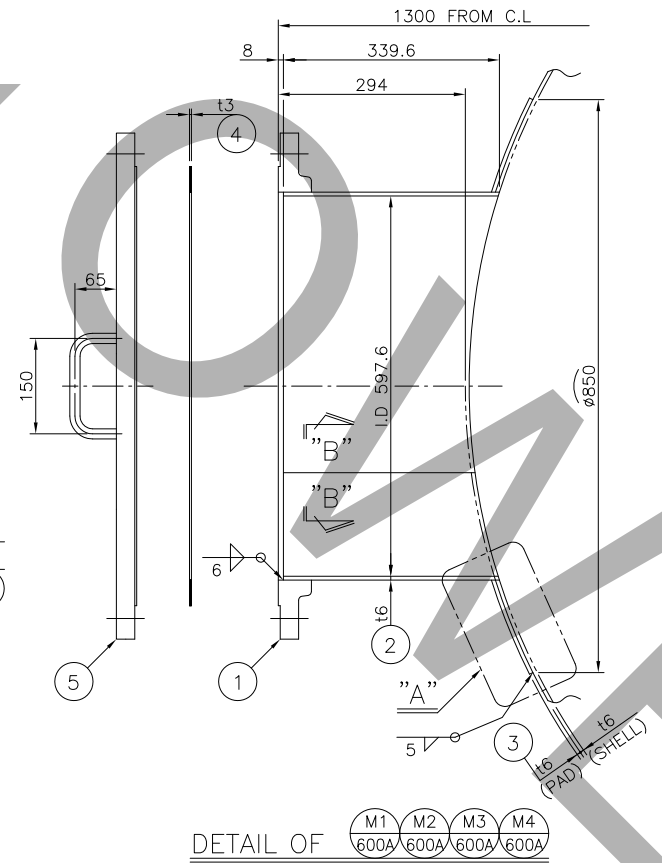


DETAIL OF "C"

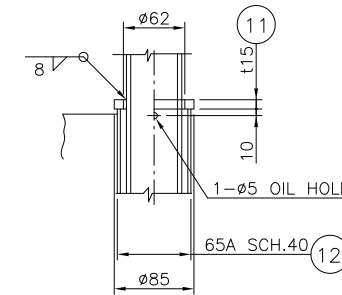


DAVIT

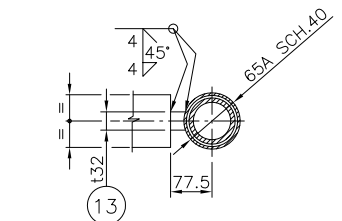
(SEE ASSEMBLY DWG. FOR OPENING DIRECTION ORIENTATION)



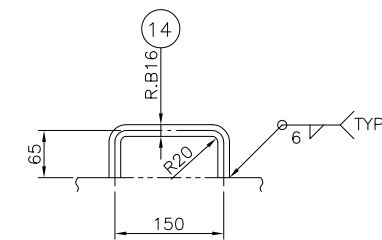
DETAIL OF (M1 600A, M2 600A, M3 600A, M4 600A)



DETAIL OF "D"



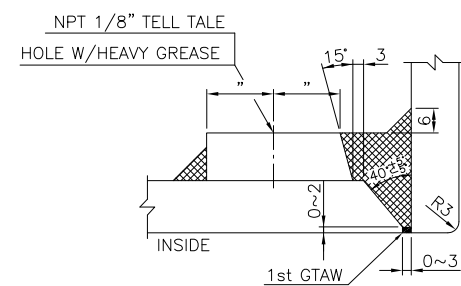
SECTION "E"



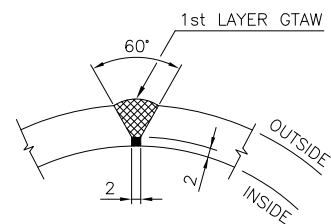
HANDLE

| PART NO. | PART NAME | MATERIAL | DIMENSIONS | QTY PER 1 SET | SPARE | REMARK |
|----------|--------------------------------|------------------|------------------|---------------|-------|--------|
| 16 | SPLIT PIN | 304 S.S | Ø8x120L | 4 | | |
| 15 | JACK BOLT | 316L S.S | M16x60L | 8 | | |
| 14 | HANDLE | 316L S.S | R.B16 | 8 | | |
| 13 | SUPPORT | 316L S.S | t32 | 4 | | |
| 12 | SLEEVE PIPE | STS304TP | 65A SCH.40 | 4 | | |
| 11 | COLLAR | 304 S.S | t15 | 4 | | |
| 10 | END PLATE | 304 S.S | t6 | 4 | | |
| 9 | HOOK | 316L S.S | Ø19 | 4 | | |
| 8 | EYE B/2N/W | 304 S.S | M24x190L | 4 | | |
| 7 | DAVIT PIPE | STS304TP | 50A SCH.40 | 4 | | |
| 6 | STUD BOLT/ 2-HEAVY HEX.NUTS | A193-B8M/A194-8M | M30x140L | 96 | 8 | |
| 5 | BLIND FLANGE | STSF316L | 600A KS10K BL,RF | 4 | | |
| 4 | GASKET | V-7010EX | t3 (FOR 600A RF) | 4 | 4 | |
| 3 | REINF.PAD | A240-316L | t6 | 4 | | |
| 2 | NECK PLATE | A240-316L | t6 | 4 | | |
| 1 | FLANGE | STSF316L | 600A KS10K SO,RF | 4 | | |

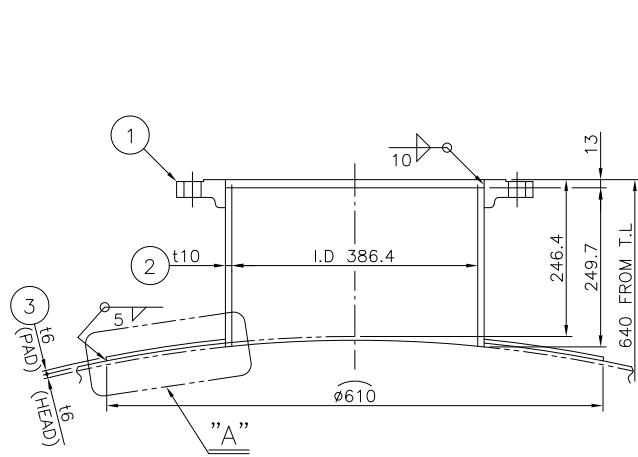
PART LIST [4 SET(S) TO BE MANUFACTURED]



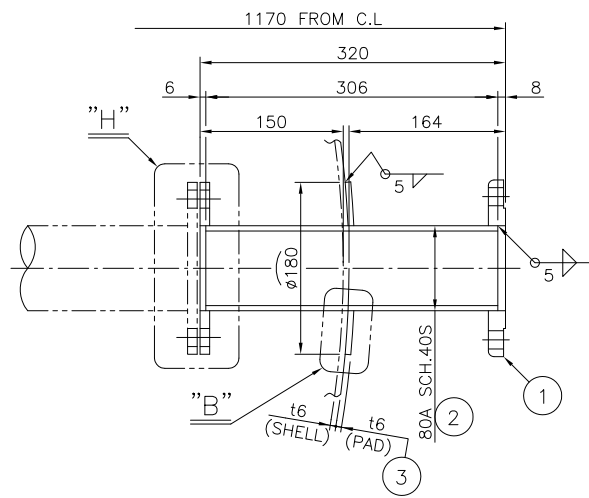
DETAIL OF "A"



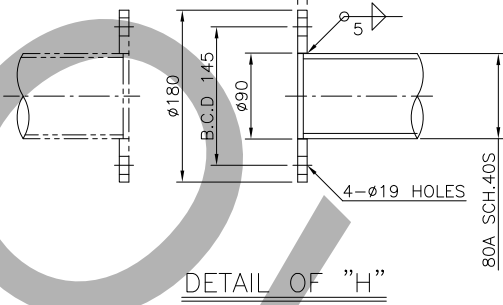
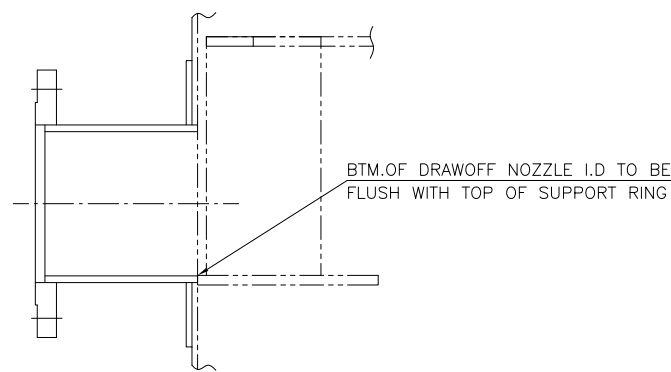
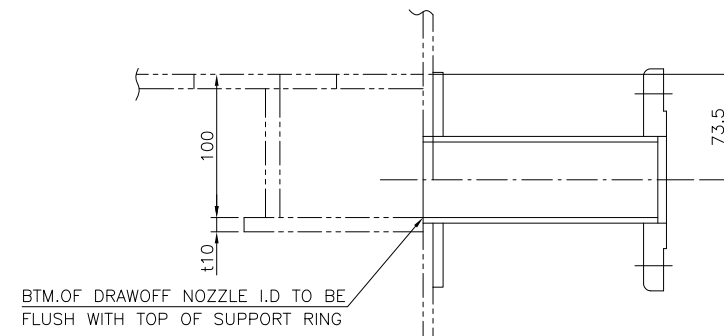
SECTION "B"- "B"



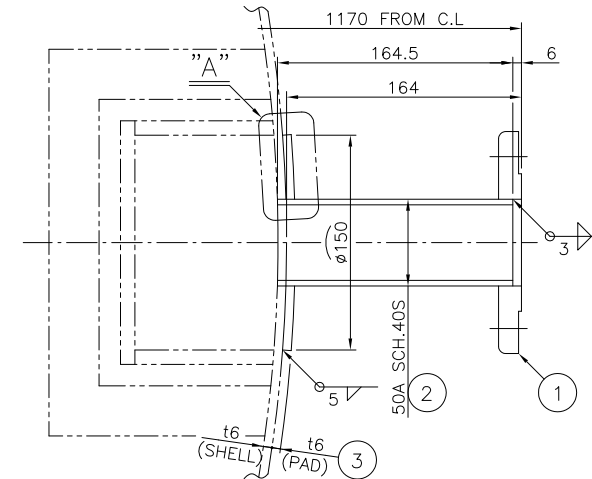
DETAIL OF A1 400A



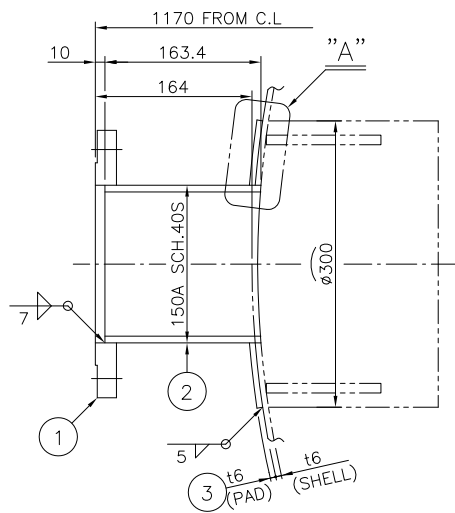
DETAIL OF A2 80A



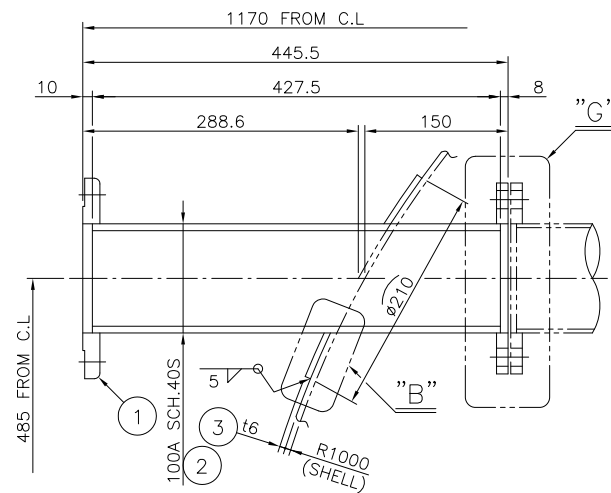
DETAIL OF "H"



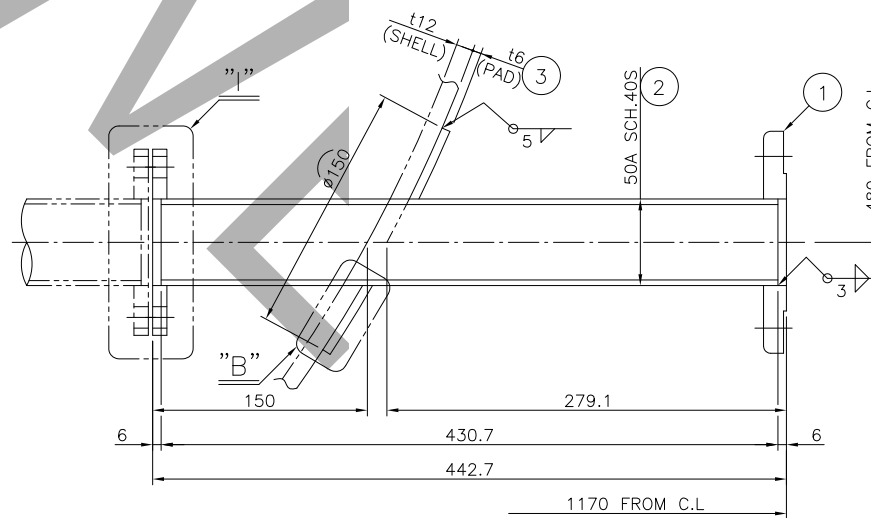
DETAIL OF A6 50A



DETAIL OF A3 150A



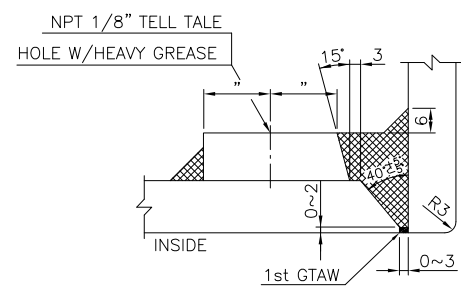
DETAIL OF A4 100A A5 100A



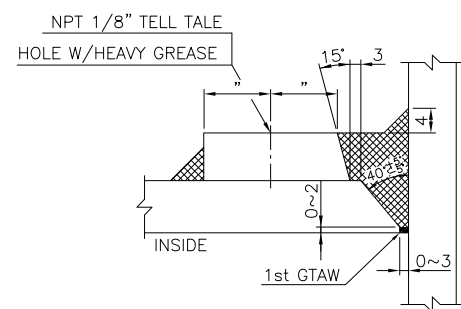
DETAIL OF A7 50A

| PART NO. | PART NAME | MATERIAL | DIMENSIONS | QTY PER 1 SET | REMARK |
|----------|-----------------|-----------|------------------|---------------|--------|
| A7 | 4 PLATE FLANGE | A240-316L | t10 | 1 | |
| | 3 REINF.PAD | A240-316L | t6 | 1 | |
| | 2 NOZZLE NECK | STS316LTP | 50A SCH.40S | 1 | |
| | 1 NOZZLE FLANGE | STSF316L | 50A KS10K SO,RF | 1 | |
| A6 | 3 REINF.PAD | A240-316L | t6 | 1 | |
| | 2 NOZZLE NECK | STS316LTP | 50A SCH.40S | 1 | |
| | 1 NOZZLE FLANGE | STSF316L | 50A KS10K SO,RF | 1 | |
| A5 A4 | 4 PLATE FLANGE | A240-316L | t12 | 2 | |
| | 3 REINF.PAD | A240-316L | t6 | 2 | |
| | 2 NOZZLE NECK | STS316LTP | 100A SCH.40S | 2 | |
| | 1 NOZZLE FLANGE | STSF316L | 100A KS10K SO,RF | 2 | |
| A3 | 3 REINF.PAD | A240-316L | t6 | 1 | |
| | 2 NOZZLE NECK | STS316LTP | 150A SCH.40S | 1 | |
| | 1 NOZZLE FLANGE | STSF316L | 150A KS10K SO,RF | 1 | |
| A2 | 4 PLATE FLANGE | A240-316L | t10 | 1 | |
| | 3 REINF.PAD | A240-316L | t6 | 1 | |
| | 2 NOZZLE NECK | STS316LTP | 80A SCH.40S | 1 | |
| | 1 NOZZLE FLANGE | STSF316L | 80A KS10K SO,RF | 1 | |
| A1 | 3 REINF.PAD | A240-316L | t6 | 1 | |
| | 2 NOZZLE NECK | A240-316L | t10 | 1 | |
| | 1 NOZZLE FLANGE | STSF316L | 400A KS10K SO,RF | 1 | |

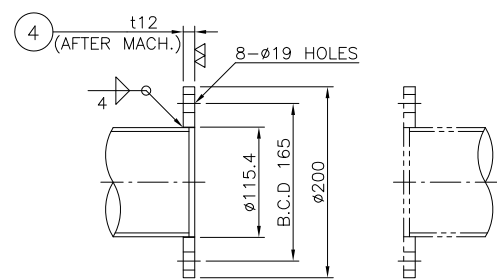
PART LIST [1 SET(S) TO BE MANUFACTURED]



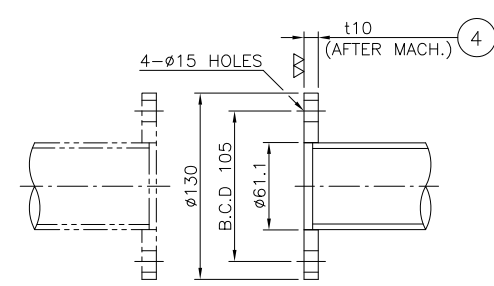
DETAIL OF "A"



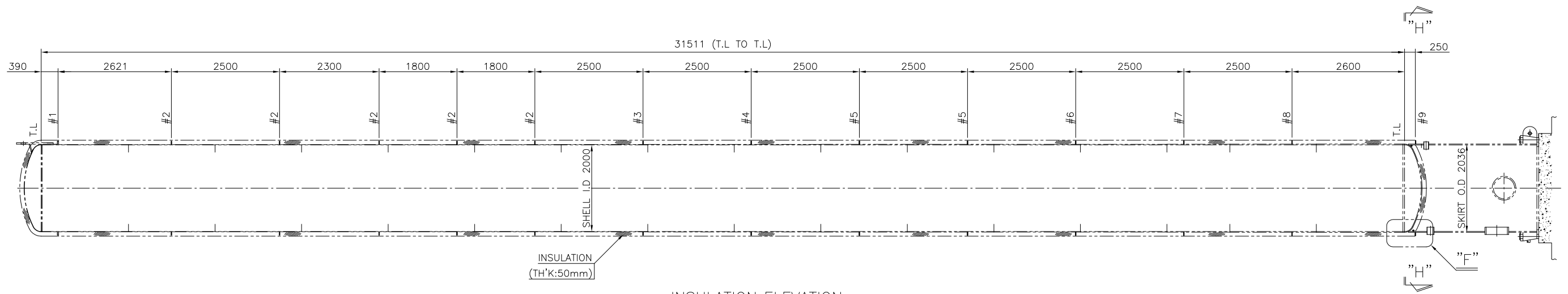
DETAIL OF "B"



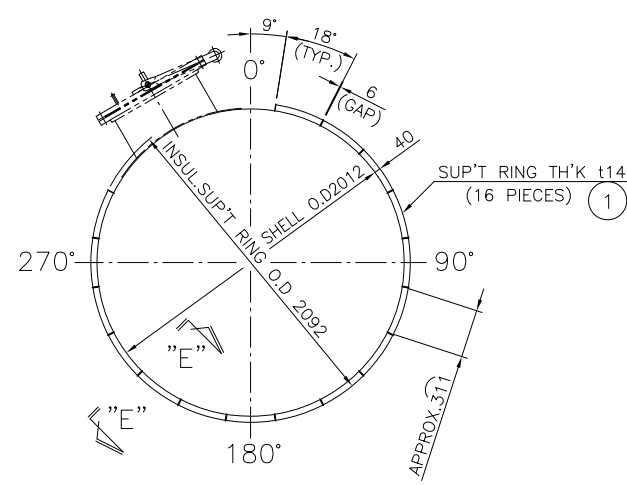
DETAIL OF "G"



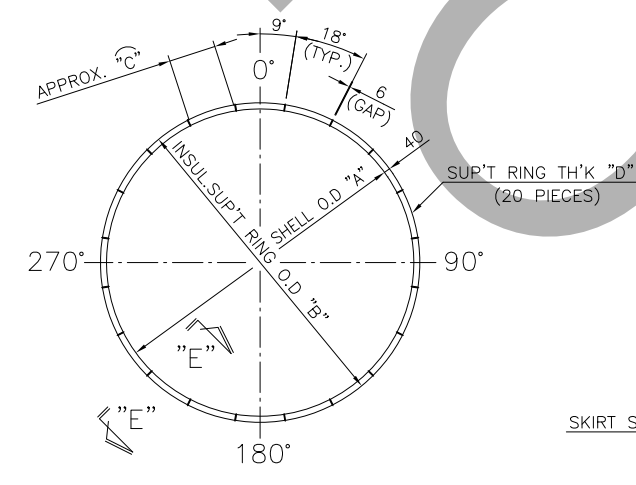
DETAIL OF "I"



INSULATION ELEVATION



INSULATION SUP'T RING FOR #1



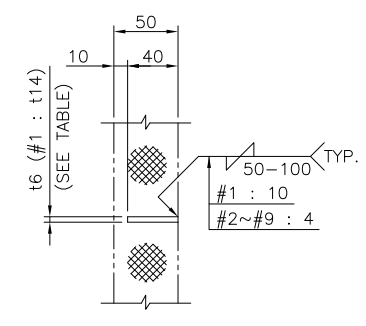
INSULATION SUP'T RING FOR #2~#9

| | "A" (SHELL O.D) | "B" (INSUL.SUP'T RING O.D) | "C" (LENGTH) | "D" (RING THICKNESS) | Q'TY | NO. |
|----|-----------------|----------------------------|--------------|----------------------|------|-----|
| #2 | ∅2012 | ∅2092 | 311 | t6 | 20 | 2 |
| #3 | ∅2016 | ∅2096 | 311 | t6 | 20 | 3 |
| #4 | ∅2020 | ∅2100 | 312 | t6 | 20 | 4 |
| #5 | ∅2024 | ∅2104 | 312 | t6 | 20 | 5 |
| #6 | ∅2025.4 | ∅2105.4 | 313 | t6 | 20 | 6 |
| #7 | ∅2028 | ∅2108 | 313 | t6 | 20 | 7 |
| #8 | ∅2032 | ∅2112 | 313 | t6 | 20 | 8 |
| #9 | ∅2036 | ∅2116 | 314 | t6 | 20 | 9 |

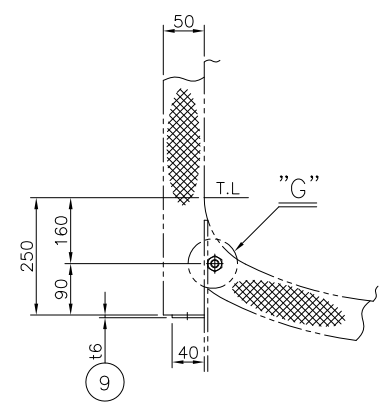
DIMENSION TABLE

| PART NO. | PART NAME | MATERIAL | DIMENSIONS | INSTALL Q'TY PER 1 SET | SPARE Q'TY PER 1 SET | REMARK |
|----------|-------------------|-----------|------------|------------------------|----------------------|--------|
| 10 | NUT | 304 S.S | A194-8M | 20 | | |
| 9 | INSUL. SUP'T CLIP | A283-C | t6 | 20 | | |
| 8 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 7 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 6 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 5 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 4 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 3 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 2 | INSUL. SUP'T CLIP | A240-316L | t6 | 20 | | |
| 1 | INSUL. SUP'T CLIP | A240-316L | t14 | 16 | | |

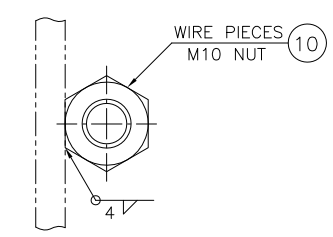
PART LIST [1 SET(S) TO BE MANUFACTURED]



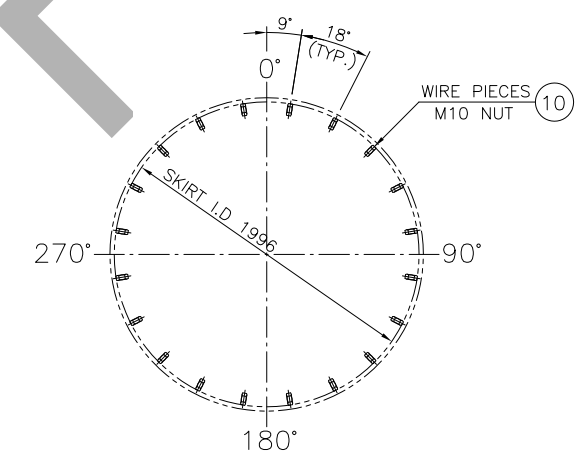
SECTION "E"-"E"



DETAIL OF "F"



DETAIL OF "G"



SECTION "H"-"H"