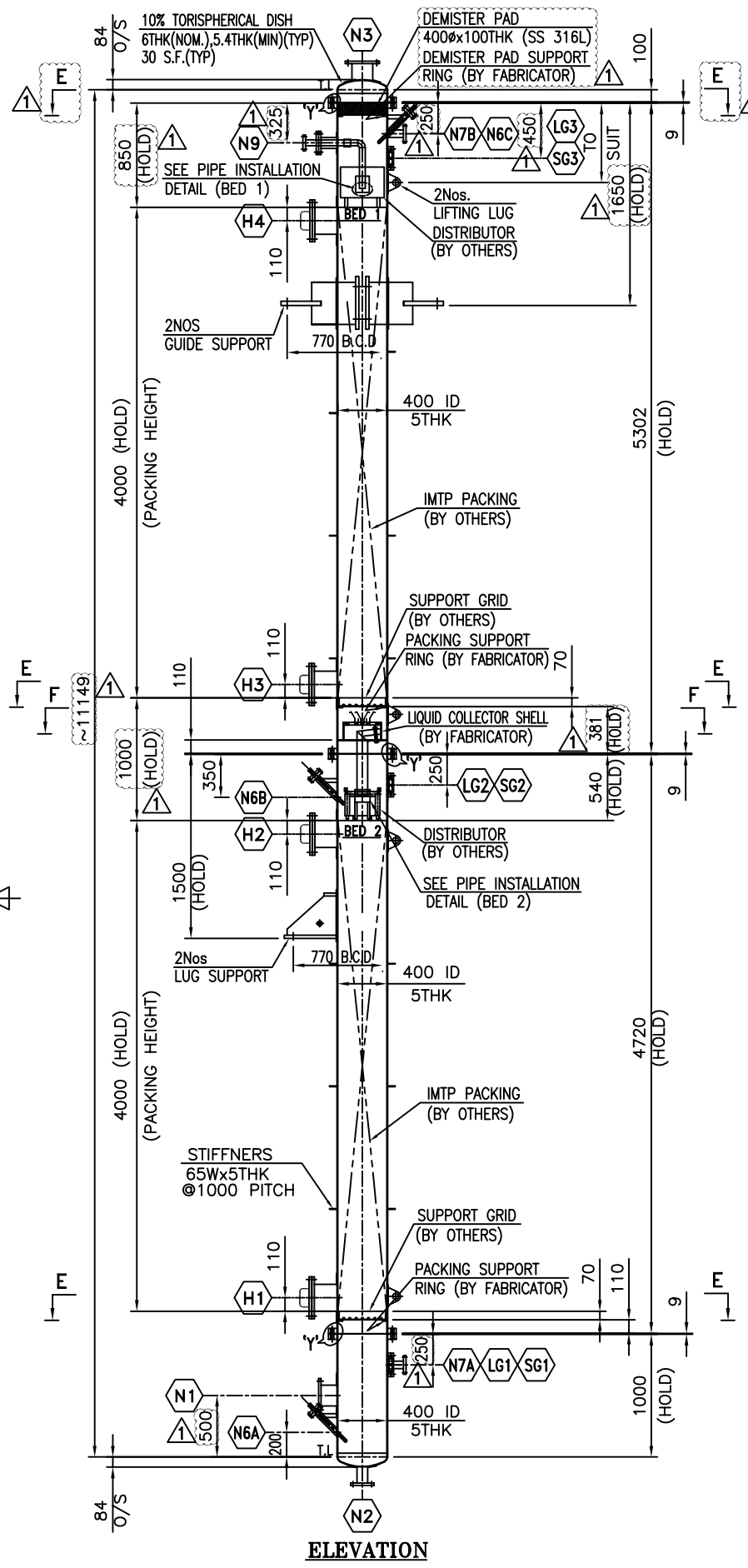


ELEVATION

PLAN (HOLD)

DESIGN DATA

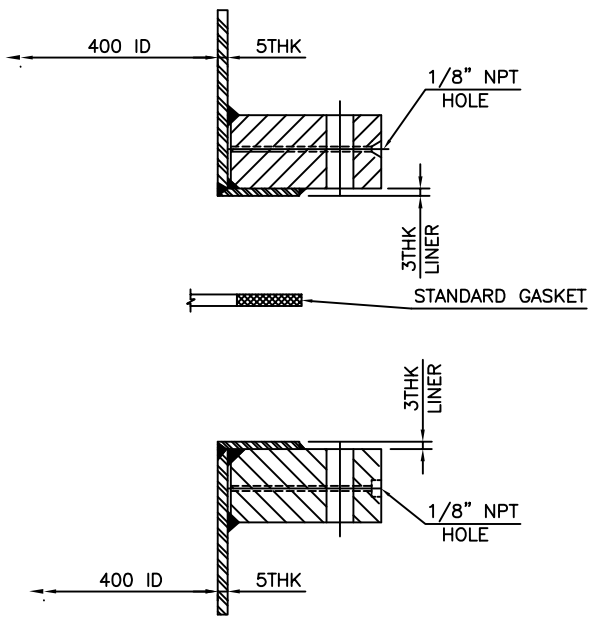
TYPE : VERTICALLY CYLINDRICAL COLUMN WITH TOP & BOTTOM DISHEND.

DESIGN CODE :- ASME SEC. VIII DIV 1-2021 (LATEST)

		SHELL(TOP)	SHELL(BOTT)
DESIGN PRESSURE	kg/cm²g	3.5/F.V.	
WORKING PRESSURE	kg/cm²g	-400mmWC /1	
DESIGN TEMPERATURE	°C	250	
WORKING TEMPERATURE	°C	95	97
HYDRO TEST PRESSURE	Kg/cm²g	4.55	
JOINT EFFICIENCY	SHELL/DISH	0.85/1.0	
RADIOGRAPHY	SHELL/DISH	SPOT+ ALL 'T' JOINT/FULL	
STRESS RELIEF		AS PER CODE	
FLUID HANDLED/(SP. GRAVITY)	Kg/m3	-/-	
CORROSION ALLOWANCE	mm	N.A	
INSULATION (HOT)	mm	N.A. /1	
INSPECTION BY		CLIENT/TPI	
EMPTY / HYDRO TEST WT.	kgs.	REFER SHEET 2 OF 3	

REF. DOC. NO. : -

EQPT. NO : SC-5418



DETAIL -'Y'
STANDARD 150# FLANGE

MATERIAL OF CONSTRUCTION

SHELL/DISH	SA 240 Gr 316L
R.F. PAD	SA 240 Gr 316L
NOZZLE PIPE	SA 312 TP 316L(S)
NOZZLE FLANGE ≤ 150NB	SA 182 F 316L (S0.RF)
NOZZLE FLANGE > 150NB	SA 516 Gr 70 WITH 3THK SS 316L LINER
BODY FLANGE	SA 516 Gr 70 WITH 10THK SS 316L LINER
SUPPORT (INTERNAL)	SA 240 Gr 316L
GASKET (SHELL)	PTFE
INT. BOLT & NUTS	SS 316L
EXT. BOLT & NUTS	SA 193 Gr B7/SA 194 Gr 2H WITH HDGI
STIFFENER (EXTERNAL)	SA 240 Gr 316L
SUPPORT (EXTERNAL)	IS 2062 Gr A WITH SS 304 PAD
LIFTING LUG	IS 2062 Gr A WITH SS 304 PAD
INTERNAL SUPPORT RING	SS 316L
INSULATIONS (BY OTHERS)	N.A. /1
INSULATIONS CLEATS	SS 316L
SIGHT GLASS/LIGHT GLASS/FLANGE/COVER	SA 240 Gr 316L /1
TYPE OF PACKING (BY OTHERS)	IMTP PACKING SS316L

FOUNDATION LOAD DATA

WIND		SEISMIC	
SHEAR (kgf)	MOMENT (kgf-m)	SHEAR (kgf)	MOMENT (kgf-m)
123	58	60	51

GENERAL NOTES

A) FABRICATION:-

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE STATED.
2. ALL MACHINED SURFACE AND CONNECTION SHALL BE PROTECTED WITH RUST PREVENTING COMPOUND IMMEDIATETLY AFTER MACHINING.
3. ALL BOLT HOLES IN NOZZLE AND BODY FLANGES TO BE STRADDLE WITH VESSEL CENTER LINE.
4. ALL NOZZLE PROJECTION ON SHELL TO BE MEASURED FROM VESSEL CENTER LINE AND NOZZLE ON DISH END TO BE MEASURED FROM TANGENT LINE
5. FLANGES GASKETS FACE SHALL HAVE CONCENTRIC SERRATED FINISH FROM 120 TO 250 AARH, UNLESS OTHERWISE SPECIFIED.
6. ALL NOZZLE UP TO 50NB SHALL BE SUITABLY STIFFENERS WITH 2-Nos. 30MM WIDE x 6THK, FLATS LOCATED 90° APART. ROUNDED WITH MIN. 3R. x 6THK, FLATS LOCATED 90° APART.
7. PROVIDED ONE NO. ø6MM VENT HOLE IN PAD PLATE AND SHALL BE PLUGGED WITH HARD GREASE AFTER WELDING.
8. ALL INSIDE/OUTSIDE BURRS & SHARP EDGES/CORNERS SHALL BE CHAMFERED OR TO BE ROUNDED OFF.
9. EACH NOZZLE RF-PAD SHALL BE SOAP SOLUTION TESTED WITH AIR AT 1.25 KG./CM2 BEFORE HYDRO TEST.
10. SPARE: TWO SETS GASKET, 10% STUDS WITH TWO NUTS (MIN. 4 PAIRS) OF EACH SIZE SHALL BE IN VENDOR SCOPE OF SUPPLY.
11. ALL NOZZLE PROJECTIONS ARE TAKEN FROM VESSEL OD TO FACE OF FLANGES
12. ALL NOZZLE PIPES UP TO 200 NB SHALL BE SEAMLESS & ABOVE SHALL BE FABRICATED FROM PLATE & SHALL BE 100% RADIOGRAPHED.
13. ALL DIP PIPES SHALL BE PROVIDED WITH ø6 ANTISYPHON HOLE EXCEPT SAMPLE NOZZLE.
14. DISHEND BE SUBJECTED TO BE D.P. TEST ON KNUCKLE PORTIONS BOTH INSIDE & OUTSIDE.
15. LIFTING HOOK HOLE DIA SHALL BE MIN 40mm.

B) RAW MATERIAL:-

1. MATERIAL CERTIFICATION SHALL BE ACCORDING WITH EN10204-3.1 FOR PRESSURE PARTS AND 2.2 FOR NON -PRESSURE PARTS.
2. FORMED PARTS DISH END TO BE SOLUTION ANNEALED HEAT TREATMENT.
3. MATERIAL SOURCE OF MAKE : REFER THE ENQUIRY SPEC.

C) WELDING:-

1. ALL FILLET SIZE AS INDICATE ARE MINIMUM.
2. ALL WELDING SHALL BE DONE BY QUALIFIED WELDER AND QUALIFIED WPS.
3. FOR FILLET WELD UP TO 12MM HAVE TOLERANCE -0+2, 12MM TO 25MM -0+3 AND ABOVE 25MM TO 50MM TOLERANCE TO BE -0+4.
4. ALL WELDS PRSSURE CONTAINING AND NON-PRESSURE CONTAINING SHALL BE OF SMOOTH PROFILE.
5. FILLET WELD SHALL BE FINISHED TO GIVE A SMOOTH TRANSITION WITH PARENT PLATE.
6. ROOT-GAP 2-4MM AND ROOT FACE 1-2MM, UNLESS OTHERWISE SPECIFEID.
7. WHENEVER BACK CHIPPING IS NOT POSSIBLE FABRICATOR TO ENSURE F.P.W. ROOT RUN BY TIG.
8. WELD SHALL BE FREE FROM UNDERCUT, OVERLAP AND ABRUPT RIDGES OR VALLEYS, WELDS RIPPLES SHALL HAVE REGULAR, UNIFORM APPEARANCE.
9. WHENEVER RF-PADS FOUL ON C/S & L/S JOINT, FLUSH GRIND THE WELD & CARRYOUT PT BEFORE FIT-UP OF PAD.
10. ALL NOZZLE OPENING SHALL BE MIN. 50MM AWAY FROM C/S & L/S JOINT OF VESSEL.
11. CS TO SS WELDING SHALL BE PROVIDED WITH BARRIER LAYER E309 Mo ON CS TO PROTECT CARBON DILUTION TO SS.

D) NON DESTRUCTIVE TESTING:-

1. WELDING FOR NON PRSSURE CONTAINING COMPONENT TO PRESSURE CONTAINING COMPONENT SHALL BE 100% LT/DP.
2. DISH END KNUCLE PORTION & CROWN EDGES SHALL BE 100% LP/DP TESTED.
3. NOZZLE FLANGES HAVE 1/8" NPT TEST HOLE & SHALL BE SOAP SOLUTION TESTED WITH AIR AT 1.5 Kg/cm²(g). AND HOLES CLOSED WITH M-SEAL/GREASE
4. INTERNAL NUTS & BOLTS SHOULD BE CHEMICALLY TESTED.

(CONTINOUE REFER NOTES SH. 2 OF 2)

MARK	SIZE	QTY.	SERVICE	SCH/THK	RATING	TYPE/FACE	APP.LENG.	R.F PAD ø	REMARK
H1-H4	200	4	HANDHOLE	20s	150#	SO.RF	150	410 O.Dx 222 I.Dx5THK	WITH COVER
SG 1-3	80	3	SIGHT GLASS	-	150#	PAD TYPE		-	
LG 1-3	80	3	LIGHT GLASS	-	150#	PAD TYPE		-	
N9	80x40	1	REFLUX	80s	150#	SO.RF	150+125	170 O.Dx 92 I.Dx5THK	WITH DIP PIPE
N7 A-B	50	2	PRESSURE TRANSMITTER	80s	150#	SO.RF	150	-	
N6 A-C	40xø22	3	TEMPERATURE TRANSMITTER WITH THERMOWELL	80s	150#	SO.RF	200	-	L-LENGTH =370mm
N3	150	1	VAPOUR OUTLET FROM COLOUMN	20s	150#	SO.RF	150	310 O.Dx 171 I.Dx5THK	
N2	80	1	LIQUID OUTLET FROM COLOUMN	80s	150#	SO.RF	150	170 O.Dx 92 I.Dx5THK	
N1	150 /1	1	VAPOUR INLET FROM KETTLE	20s	150#	SO.RF	150	310 O.Dx 171 I.Dx5THK /1	

NOZZLE SCHEDULE (HOLD)

HOLD:-

1. NOZZLE ORIENTATION
2. SUPPOET ELEVATION
3. NOZZLE SCHEDULE

QTY.:- ONE

SAEPL STANDARD/SPECIFICATION

DESCRIPTION	STD. NO.	REV.
FABRICATION NOTE	STD-M-101	0
VESSEL TOLERANCE	STD-M-136	0
SURFACE TREATMENT OF SS AFTER WELDING	STD-M-146	0
PASSIVATING OF SS (AUSTENTIC TYPE)	STD-M-147	0

REV. NO.	DATE	REVISIONS	BY	CHK	APPD.
1	19.07.22	REVISED AS PER CLIENT COMMENTS & ISSUED FOR ENQUIRY/ENGINEERING /1	SDC	KKP	KKP
0	15.07.22	ISSUED FOR APPROVAL/ENQUIRY	SDC	KKP	KKP

CLIENT M/s. UPL LTD. (ANKLESHWAR) — CONT.NO. C-1581

PROJECT ZDDP EXPANSION — CAD NO. 1581-VFSC-5418

TITLE FABRICATION DRAWING FOR SCRUBBER COLUMN (SC-5418)

Shroff ENGINEERING CONSULTANTS — Shroff & Associates (Engineers) Pvt. Ltd. / Shroff Consulting Engineers LLP. — DOC NO. 1581-VFSC-5418 — REV. 1 — SHT 1 OF 3

SHEET SIZE : A2