



JOB NO: कार्य सख्या	B224	UNIT NO: युनिट सख्या	1
CLIENT : क्लाईट	 M/S HRRL, RAJASTHAN		
PLANT : प्लांट	RAJASTHAN REFINERY PROJECT		

A	23.08.2019	ISSUED FOR ENGG/BIDS		AKP	NNM/RKM	KJH
REV	DATE	REVISION		BY	CHECKED	APPROVED

DESIGN DATA		डिजाइन डेटा	DRAWING NUMBER
MAIN FRACTIONATOR	मेन फ्रैक्शनेटर	डाईग नम्बर	B224-111-80-43-DS-3001
ITEM NO. : 111-C-2101	आइटम नम्बर : 111-सी-2101	SHEET 1 OF 7	

@ 5 mm MINIMUM SS 304L WELD OVERLAY
(FOR MIN. 3 mm UNDILUTED SS304L
CHEMISTRY)

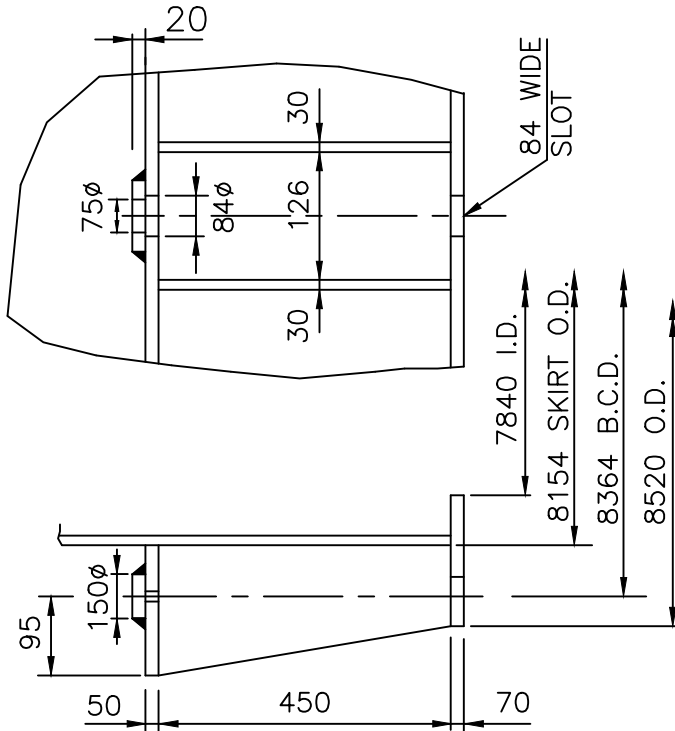
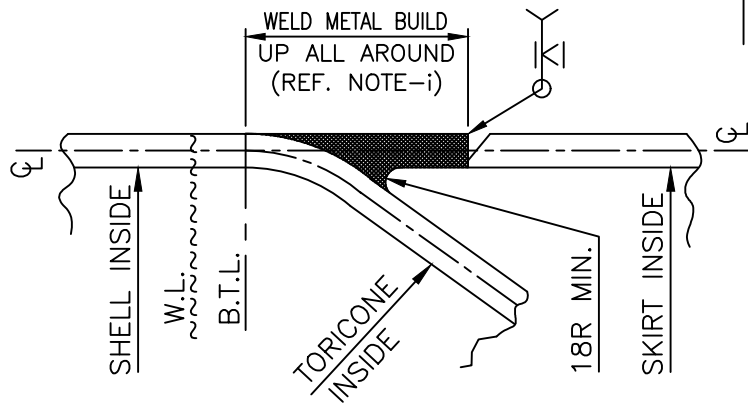
FORMAT NO.3-1646-0113 REV.2 (20.09.2011) A3-420 X 297

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NOZZLES AND CONNECTIONS (नोजल व कनेक्शन) (2.25 Cr.+1 MO+CLAD ZONE)										GENERAL NOTES (जनरल नोट्स)				SPECIFICATIONS (स्पेसिफिकेशन्स)				DESIGN DATA (डिजाइन डेटा)			
MARK	QTY	NOM. DIA (INCH)	SCH./THK.	FLANGES			PROJECTION NOTE-4	PAD WxT	SERVICE	UNLESS STATED OTHER WISE				X DENOTES APPLICABILITY		CODE		ASME SEC.VIII DIV.-1 (LATEST)			
मार्क	क्वांटिटी	नॉमिनल डायामिटर (इंच)	शेड्यूल व थिकनेस	क्लास	टाईप	फेसिंग	प्रोजेक्शन	पैड	सर्विस												
1 A-B	2	72		REFER SHT.-7						FEED (NOTE-24 & 37)+COMP. FLG.+SPACER/ BLIND											
20	1	6	REF. SHT.-7	300	SRWN	RF	REF. SHT.-7	-	QUENCH RETURN												
25I	1	24	REF. SHT.-7	300	SRWN	RF	REF. SHT.-7	-	MANHOLE + B.F. + DAVIT												
30J-L	3	3 I/D	@	300	SRLWN	RF	REF SHT.7	-	THERMOWELLS (LIQUID SHIELD)												
31H	1	3 I/D	@	300	SRLWN	RF	REF SHT.7	-	PRESSURE CONNECTION (NOTE-42)												

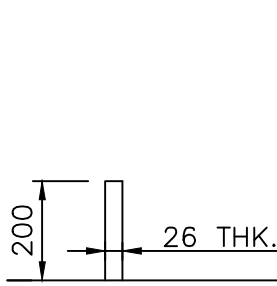
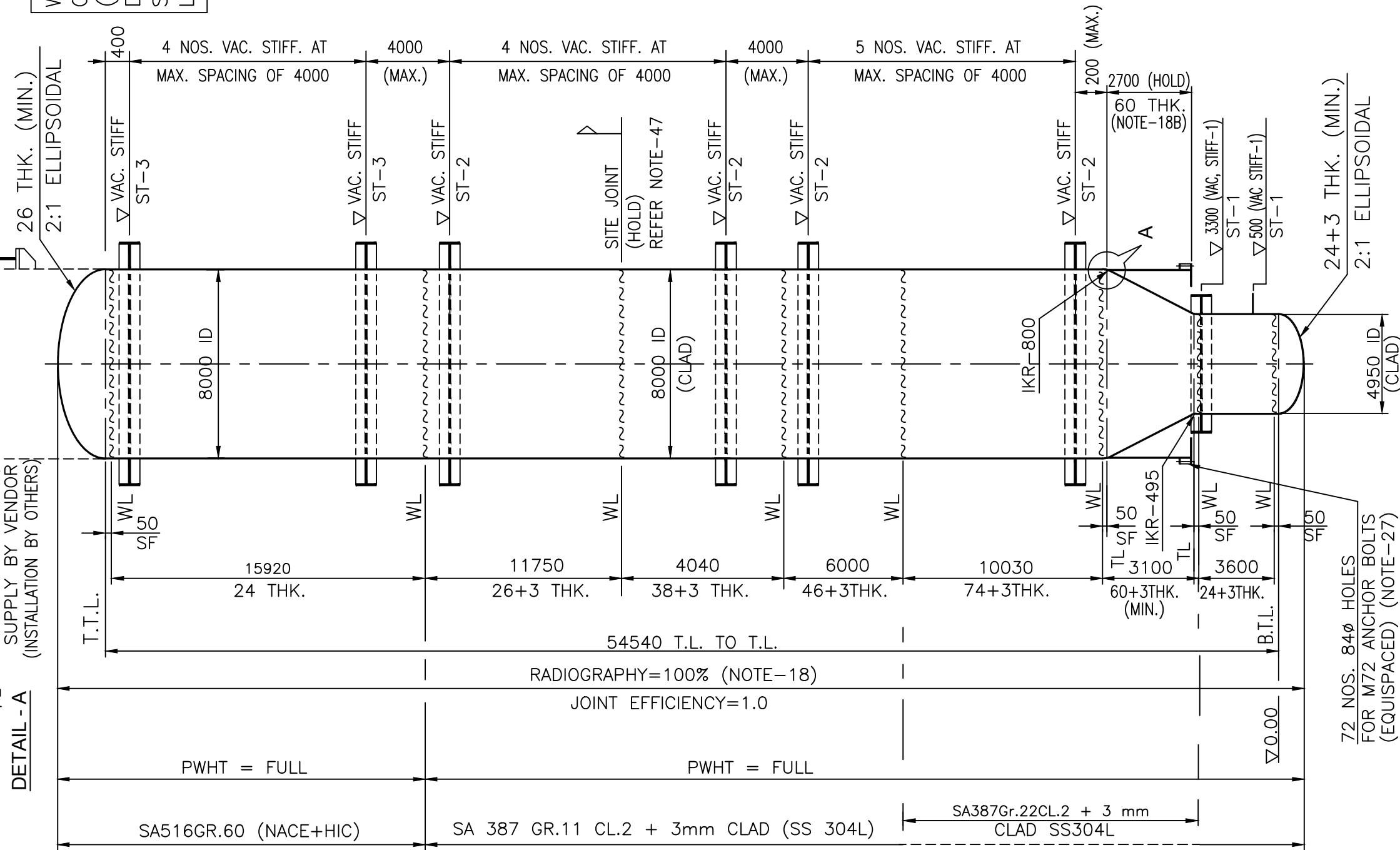
NOTE:-

- (i) THE JOINT BETWEEN THE SUPPORT SKIRT & BOTTOM HEAD SHALL HAVE THE SMOOTH STREAMLINE GEOMETRY AS SHOWN. THE JOINT DETAIL SHALL BE MADE BY WELD METAL BUILD UP ALL AROUND (REF. NOTE-i) WELDS SHALL BE GROUND OR MACHINED TO A SMOOTH, FLUSH CONTOUR. 100% MAGNETIC PARTICLE EXAMINATION OF ALL WELD SURFACES (INSIDE & OUTSIDE) SHALL BE PERFORMED AFTER FINAL POST WELD HEAT TREATMENT. 100% ULTRASONIC EXAMINATION SHALL BE CARRIED OUT ON WELD BUILT-UP AFTER COMPLETION AND AFTER FINAL PWHT.

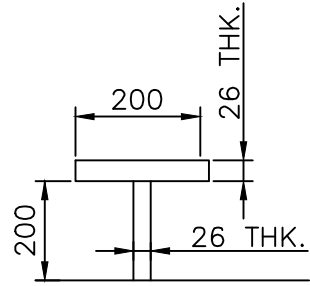


SKIRT BASE DETAIL

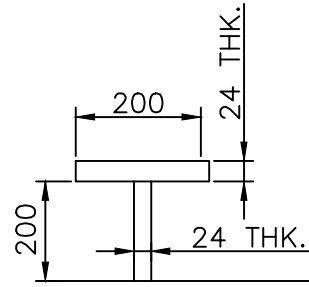
WFMT SHALL BE CARRIED OUT ON ALL WELD SEAMS OF CS (NACE+HIC) SECTION & TOP DISH HEAD INCLUDING L & C SEAM OF CS (NACE+HIC) AND LAS+CLAD SECTION AFTER PWHT.



DETAIL OF STIFFENERS (TYP.) (ST-1)



DETAIL OF STIFFENERS (TYP.) (ST-2)



DETAIL OF STIFFENERS (TYP.) (ST-3)

OSLksy fMtkbu MkVl



ENGINEERS INDIA LIMITED
NEW DELHI

JOB NO. : B224, UNIT NO. : 111
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PLANT : RAJASTHAN REFINERY PROJECT

A	23.08.2019	ISSUED FOR ENGG/BIDS	AKP	NNM/RKM	KJH		
REV.	DATE	REVISION	BY	CHK	APPROVED	APPROVED	

VESSEL DESIGN DATA
MAIN FRACTIONATOR
TEM NO. : 111-C-210

मेन फ्रैक्शनेटर
आइटम नम्बर : 111-सी-2101

DRAWING NO. B224-111-80-43-DS-3001 A
REV. 1
SHEET 4 OF 7



ENGINEERS INDIA LIMITED
NEW DELHI

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REV.	A	23.08.2019	ISSUED FOR ENGG./BIDS	REVISION	BY	AKP	NNM/RKM	KJH	APPROVED	APPROVED

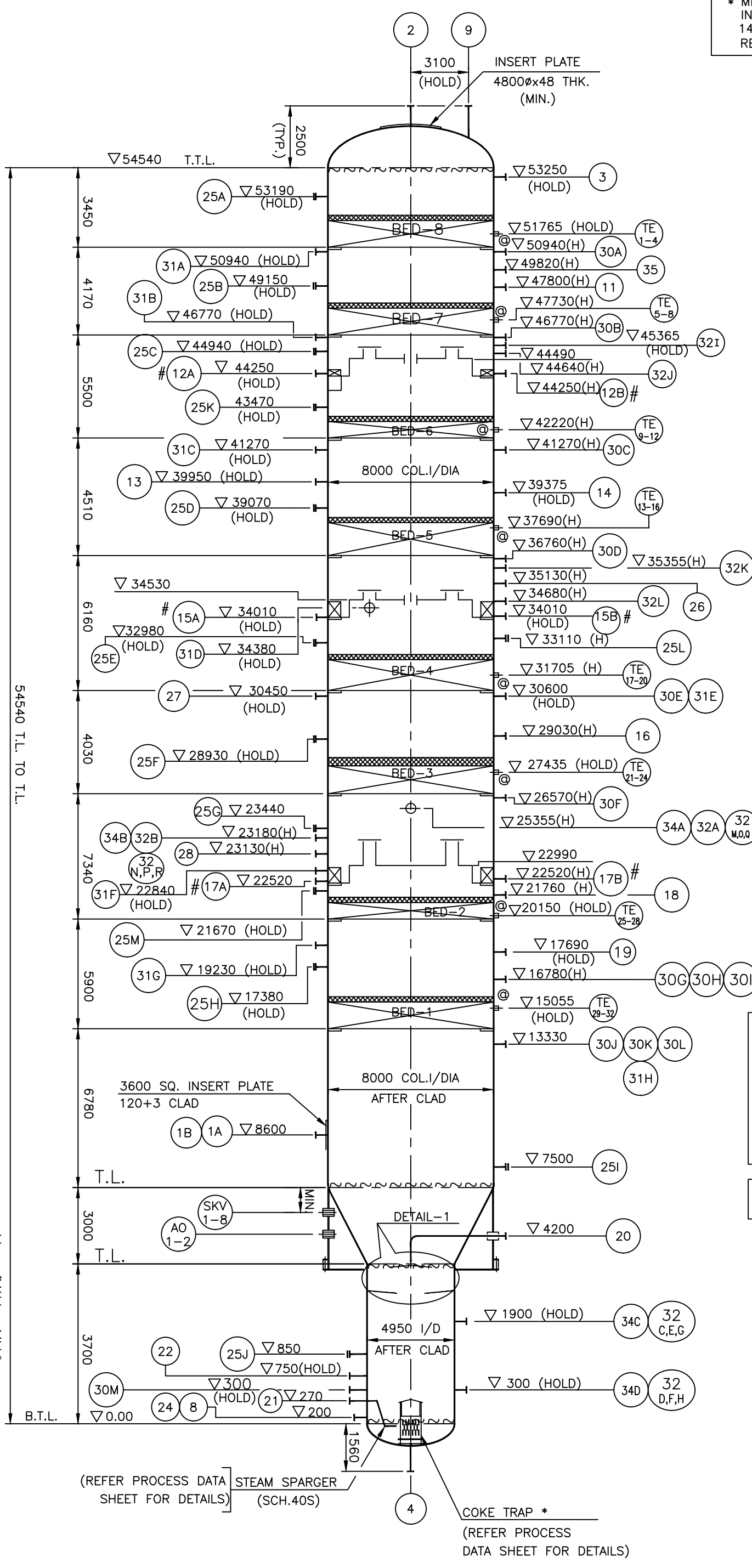
VESSEL DESIGN DATA
MAIN FRACTIONATOR

ITEM NO. 111-C-2101
B224-111-80-43-DS-3001 A

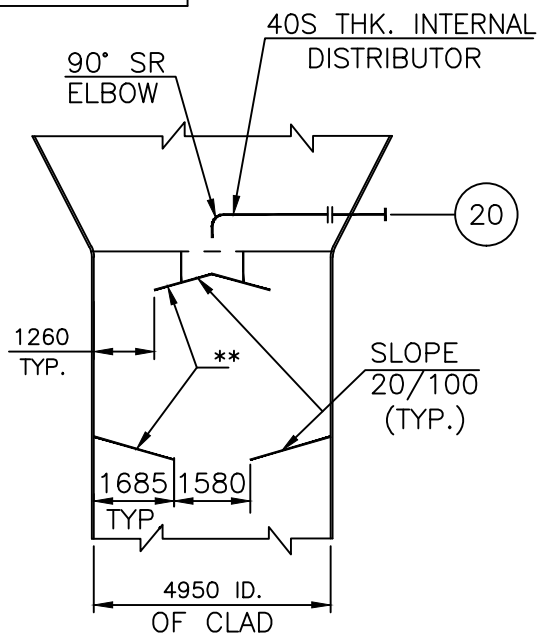
DRAWING NO.
SHEET 5 OF 7

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FILE NAME : B224-111-80-43-DS-3001-5-A



* MIN. THK. OF SS304L
INTERNALS SHALL BE
14 THK.
REFER NOTE-22



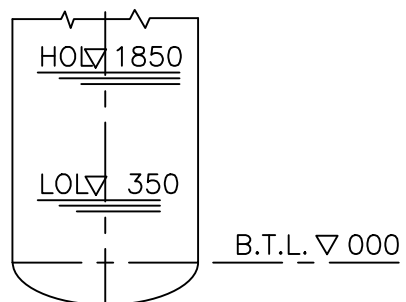
DETAIL-1
** REFER PROCESS DATA SHEET

@ 1/2" STUD BOLT & 1 1/2" 3000#
NPT HALF COUPLING FOR 32NOS.
SKIN THERMOCOUPLES WITH FOUR
INSTALLATION AT EACH BED
(REFER DETAIL ON SHEET-6).

INVERT INSIDE OF WITHDRAWAL NOZZLE
TO BE FLUSH WITH TOP OF DRAW-OFF
PAN SUPPORT RING.

LOCATE THERMOWELLS IN
- VAPOUR SPACE BELOW PACKING : NOZZLES 30A-F
- BOTTOM LIQUID : NOZZLE 30M
- FEED ZONE/SLURRY BED TOP AT 120° SPACING : NOZZLES
30G, 30H, 30I,
30J, 30K, 30L

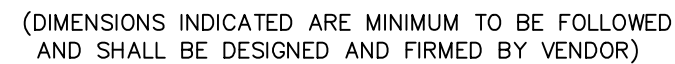
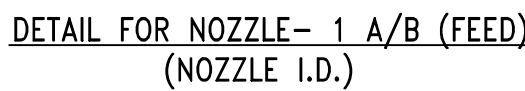
LOCATE PRESSURE INSTRUMENT IN VAPOUR SPACE



LIQUID LEVEL
DETAILS

(REFER PROCESS DATA SHEET FOR DETAILS) STEAM SPARGER (SCH.40S)
COKE TRAP *
(REFER PROCESS DATA SHEET FOR DETAILS)

FILE NAME : B224-111-80-43-DS-3001-6-A

1-1641-0503 REV.0 A3-420x297

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FILE NAME : B224-111-80-43-DS-3001-7-A

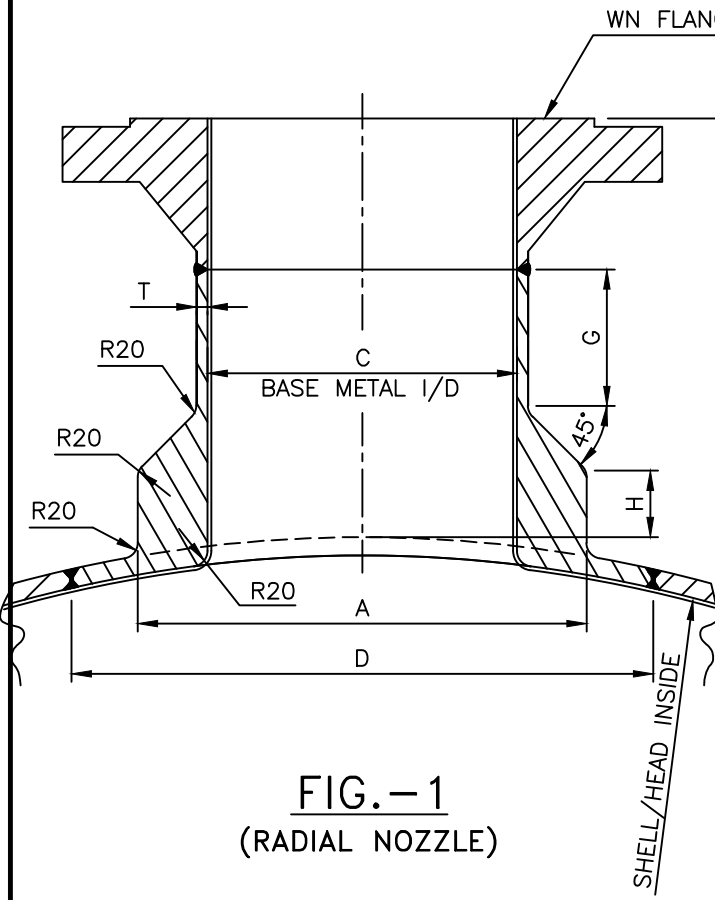


FIG.-1
(RADIAL NOZZLE)

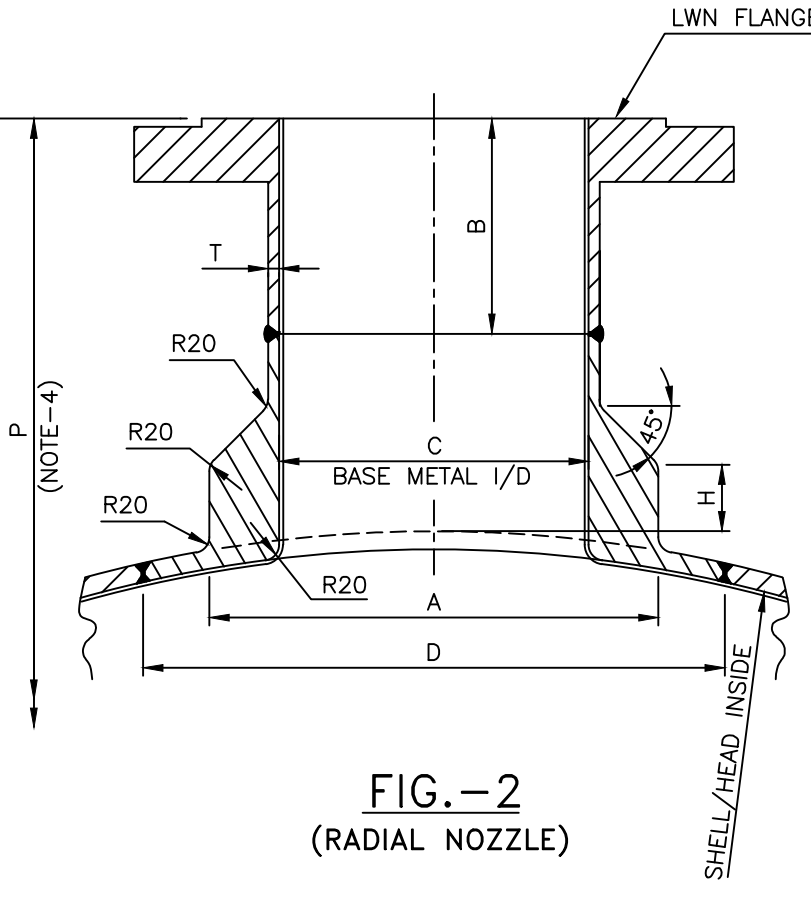


FIG.-2
(RADIAL NOZZLE)

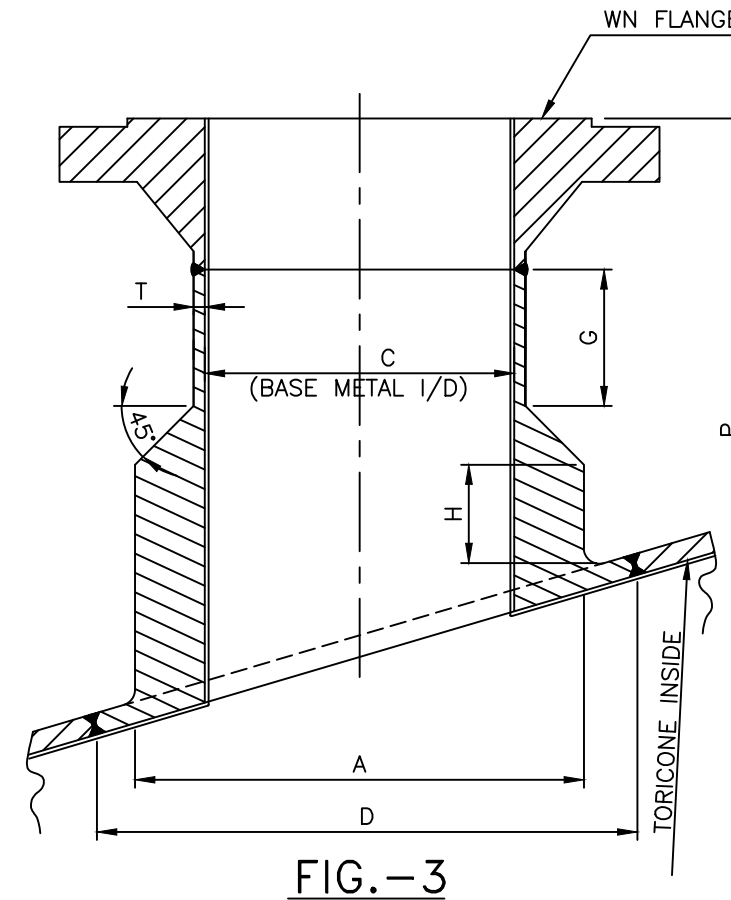


FIG.-3
(CONE NOZZLES)

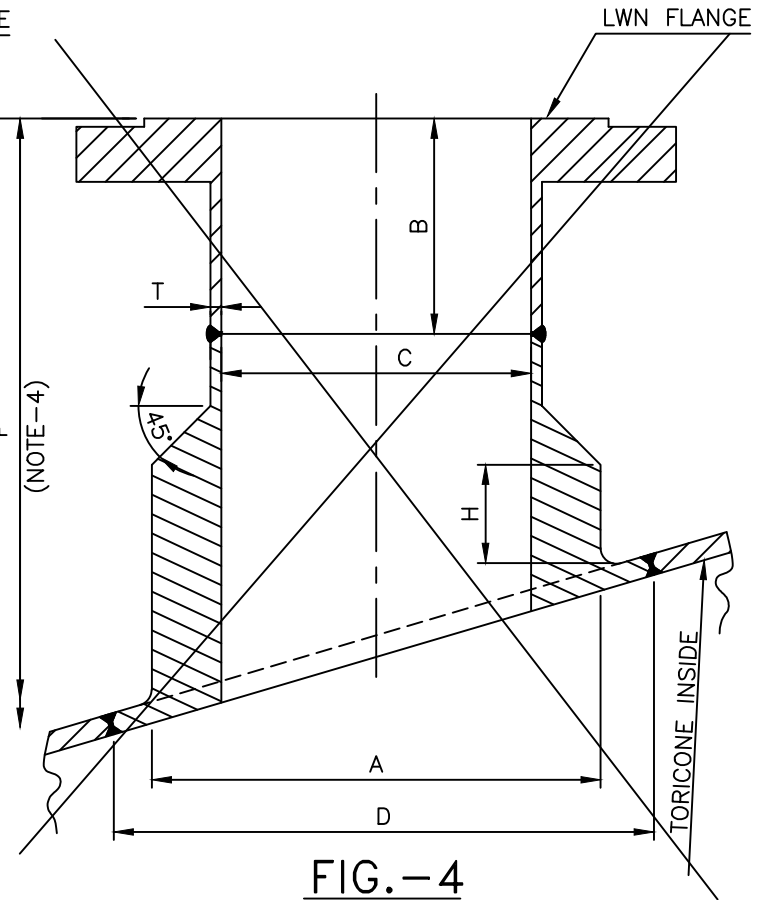
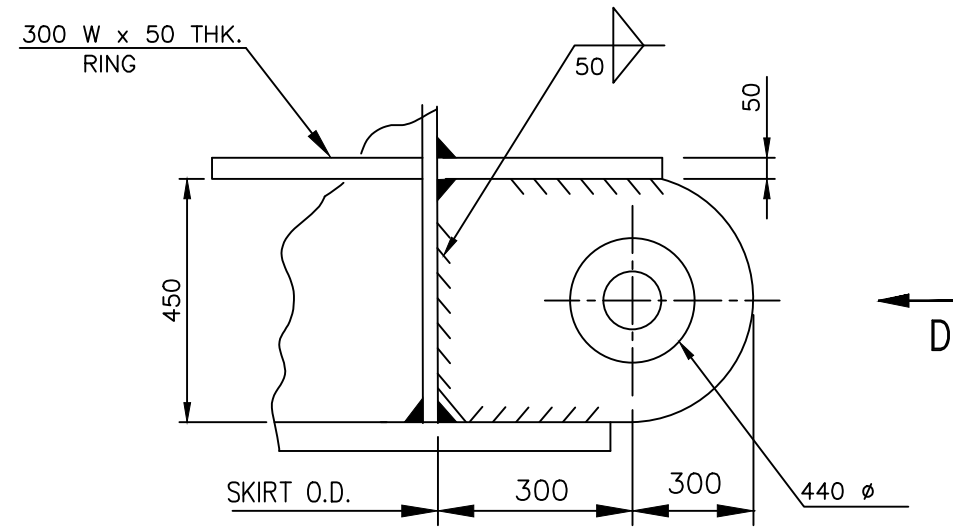


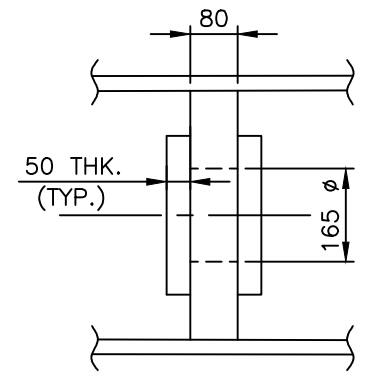
FIG.-4
(CONE NOZZLES)

NOZZLE MARK	SIZE (INCH)	P (MM)	A (MM)	C (MM)	H (MM)	T (MM)	G (MM) (MIN.)	B (MM) (MIN.)	D (MM)	FIG.
1A/B	72	4800	2270	1768.8	180	30	-	-	2370	1
25 I	24	4600	850	549.6	150	30	-	-	950	1
20	6	4400	230	128.3	100	20	-	-	330	3
31H,30J/K/L	3	4350	200	76.2	50	20.5	-	-	300	2

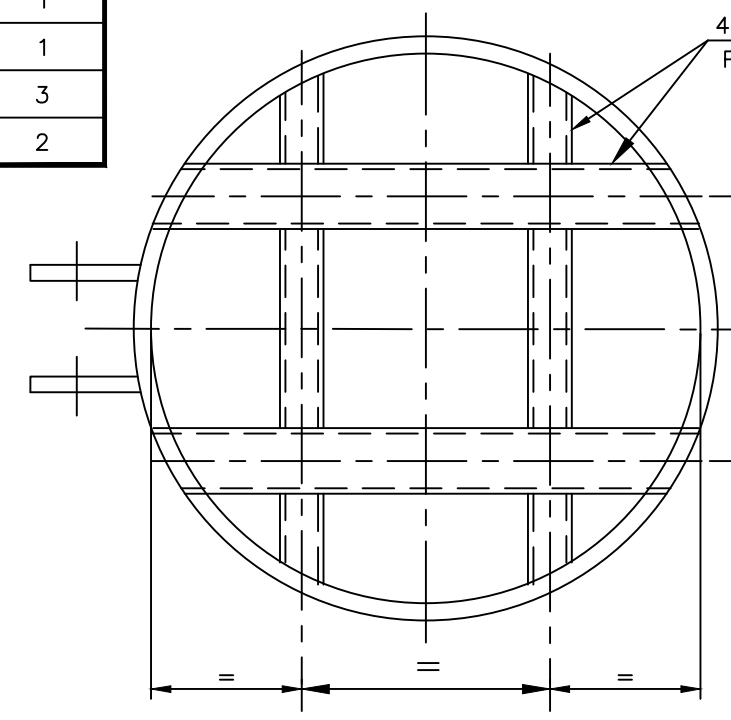
DETAIL OF SELF REINFORCED NOZZLE



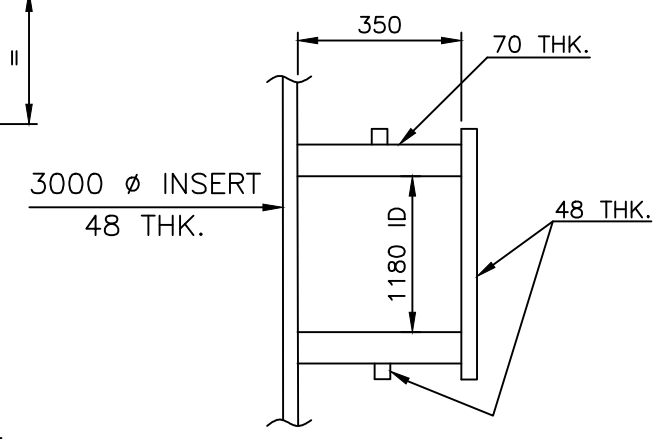
2 NOS OF TAILING LUG DETAIL
(DESIGN BY VENDOR-DIMENSIONS ARE MIN. TO BE FOLLOWED)



VIEW-D



STIFFENING DETAIL OF SKIRT
(DESIGN BY VENDOR)



LIFTING TRUNION DETAIL
(DIMENSIONS ARE MINIMUM TO BE FOLLOWED)
(DESIGN BY VENDOR)



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NEW DELHI

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VESSEL DESIGN DATA
MAIN FRACTIONATOR
ITEM NO. 111-C-2101

मेन फ्रैक्शनरेटर
आइटम नम्बर : 111-सी-2101

DRAWING NO.	REV.
B224-111-80-43-DS-3001 A	
SHEET 7 OF 7	